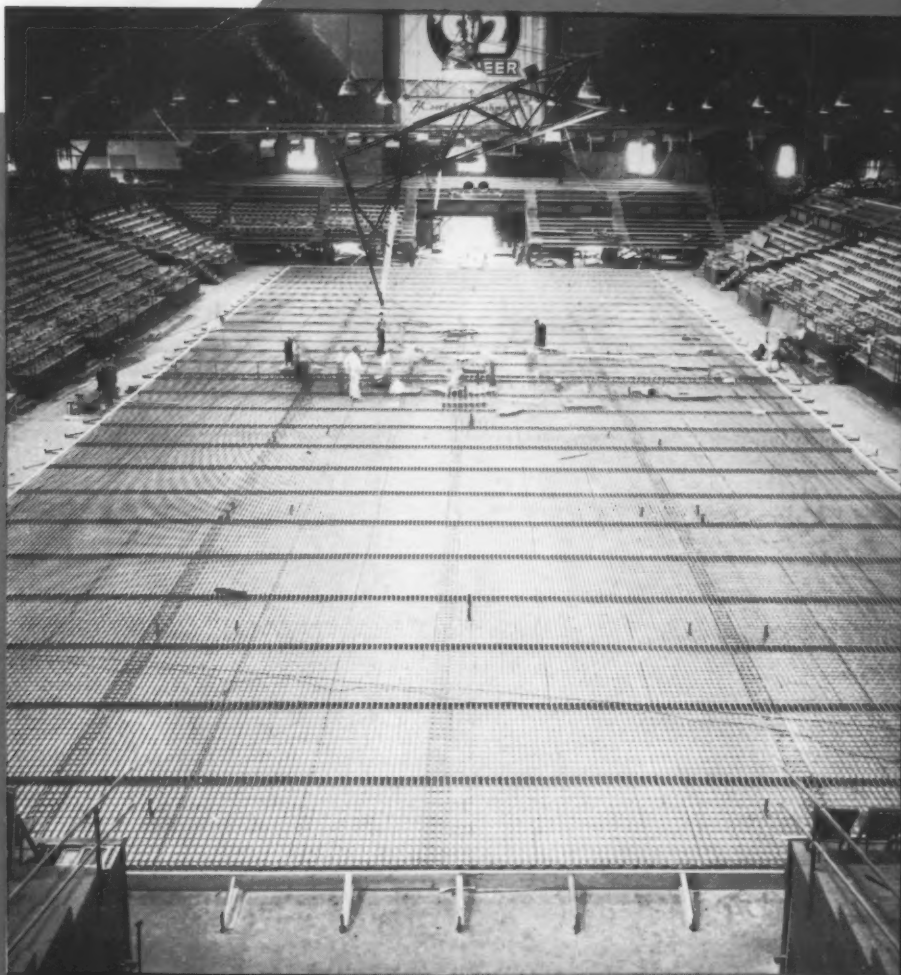


MARCH, 1951

117-✓
MAR 20 510

Commercial Refrigeration

AND AIR CONDITIONING



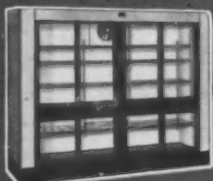
MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT



MODEL 1407. Self-service frozen food display case. Attracts and handles more buyers, invites more sales.



MODEL 306. The sensational open case with THREE refrigerated shelves. For profit-making impulse sales.



MODEL 2508. Wall Type Display Case. For self-service display of dairy products or beverages.

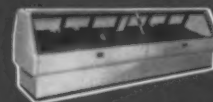


MODEL 3865. A 65-cu. ft. reach-in refrigerator. One of the four popular Koch reach-in cabinets.

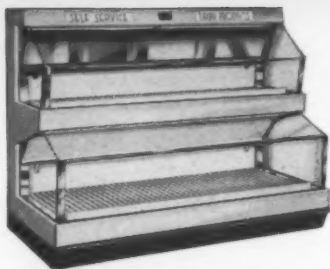
THE QUALITY REFRIGERATOR LINE



MODEL 6710. 10 ft. long open front case with extra wide display shelf. Ideal for produce display.



SERIES 2100. Endless top display cases, 7 and 10 ft. long. Set up in any length for profit displays.



DOUBLE

DOUBLE dairy sales with the DOUBLE featured KOCH 2061. Extra capacity for staples on the low level keeps traffic in front of the spotlighted eye-level shelf where impulse buying gets the top billing. Double the impact, too, with complete visibility, brightly lighted shelves and signs and full length polished plate glass mirror. Welded steel construction . . . fadeproof porcelain and polished plate glass front . . . trimmed with stainless steel.

YOUR

You're way ahead with the new 2061. 12 feet of shelving in a 6-ft. case, correctly sized for island displays. Removable ends for easy joining—plus dependable KOCH refrigeration.

MONEY

Put your money in a KOCH case and you'll DOUBLE your dividends with faster, easier selling. KOCH quality insures low-cost operation and many years of trouble-free operation.

KOCH
REFRIGERATORS

SINCE 1883

NORTH KANSAS CITY 16, MO.

SEND THIS COUPON

today
FOR FULL DETAILS

KOCH REFRIGERATORS

North Kansas City 16, Missouri

Please send me at once complete details on your dealer proposition. I understand several attractive territories are available.

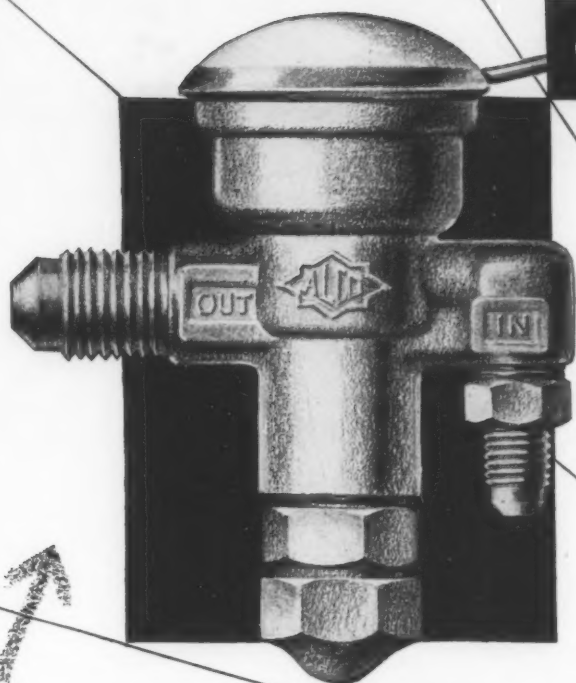
CR3

Name.....

Address.....

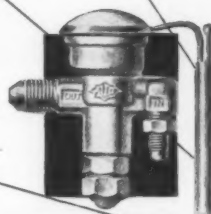
City.....Zone.....State.....

DOUBLED DOUBLED CAPACITY



*Same space
saving size*

the new Alco 402-4 for applications up to 1 ton F-12



402-2 up to 1/2 ton F12

All of the famous 402 Thermo Valve features—but twice the capacity—up to 1 ton F-12 or 2 tons Methyl Chloride.

LIQUID CHARGE—may be mounted in any position

PRESSURE LIMITING ELEMENT—for motor overload protection

WIDE RANGE SUPERHEAT ADJUSTMENT—2-20°F, easy to set

REVERSE SEATING—smooth action at all loads

REMOVABLE STRAINER—for maximum protection, easy to clean

COMPACT, SIMPLE CONSTRUCTION—minimum of internal parts



See it at your ALCO wholesaler starting in March
—try it on your next job.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

Circle No. 2 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

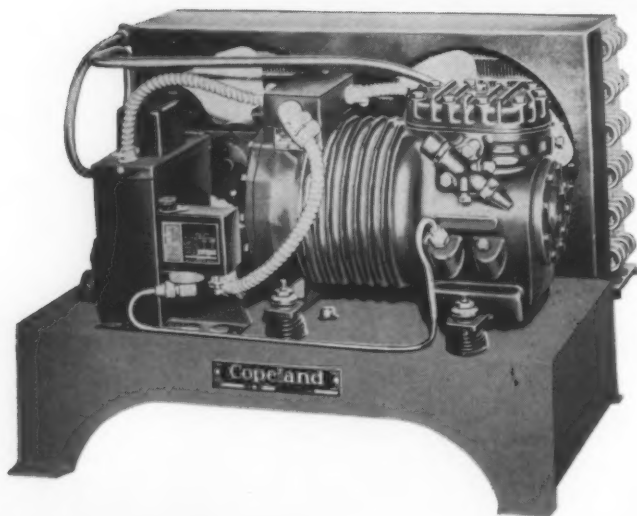
4339

Copeland

DEPENDABLE *Electric* REFRIGERATION

the line for

Greater
Sales!



COPELAMETIC

THE ACCESSIBLE HERMETIC

AND

COPELAND

OPEN-TYPE UNITS

With open-type units and Copelametics in sizes of 1/6 H.P. through

7-1/2 H.P. Copeland broadens the range of your prospects . . . shortens the distance to the name on the dotted line.

National advertising to your market helps you cash in on Copeland's reputation. Copeland's recognized quality insures recommendations and repeat sales.

Get behind the product that's behind you all the way . . . the product that gives you a size for every refrigeration and air-conditioning need.

Display and sell the new, complete Copeland line.

COPELAND REFRIGERATION CORPORATION • SIDNEY, OHIO

Manufacturers of

REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC), WATER COOLERS, REFRIGERATORS

Circle No. 3 on Reader Service Card for more information

MARCH, 1951

VOLUME 8, NO. 3

Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no
official affiliation with ANY
group, society or association.

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AND AIR CONDITIONING

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Room 784
Superior 7-7823

LOS ANGELES 17
FRED W. FRISENFELDT
1250 Wilshire Boulevard
Room 602
Tukey 6703

THE COVER . . . Tons of refrigeration—and of piping—go into the construction of the modern ice rink. Customers seldom think of it, but actually the rink is in effect a giant-size "ice tray", the temperature of which must be held within close limits for good skating conditions. Shown here is brine piping being installed in the Jefferson County Armory, Louisville, Ky. Photo from Byers Co.

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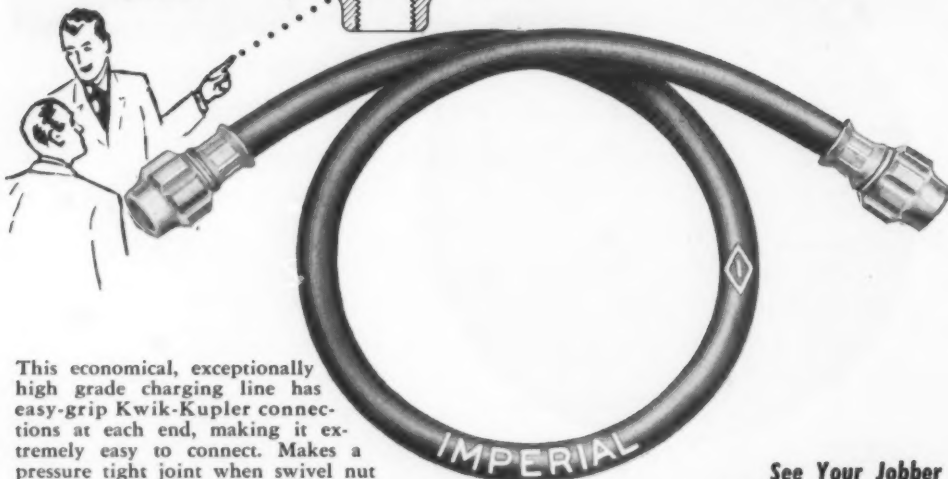
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Acceptance under Section 34.64, PL&R, authorized at Milwaukee, Wisconsin.

Kwik-Kuplers on IMPERIAL CHARGING LINES

... means jobs
get done faster

"The gasket cannot be
blown or dropped out,
yet you can readily re-
place it."



This economical, exceptionally high grade charging line has easy-grip Kwik-Kupler connections at each end, making it extremely easy to connect. Makes a pressure tight joint when swivel nut is made finger tight.

Built for long reliable service. Hose has special composition core impervious to common refrigerants, covered with 4-ply woven fabric with neoprene outer covering. Has far greater tensile strength than ordinary hose.

Seal gaskets cannot be blown or dropped out, but are readily replaceable.

$\frac{1}{4}$ " Flare Kwik-Kupler at each end.	Net Each
No. 197-FT—24" overall length.....	\$2.65
No. 198-FT—30" overall length.....	2.85
No. 199-FT—36" overall length.....	3.25



THE IMPERIAL BRASS MFG. CO.
536 S. Racine Avenue, Chicago 7, Illinois
Canada: The Imperial Brass Mfg. Co., 33 Church St., Toronto, Ontario

IMPERIAL

FITTINGS • VALVES • DRIERS • FILTERS
FLOATS • CHARGING LINES • TOOLS for
Cutting, Flaring, Bending, Pinch-Off, Swedging

See Your Jobber
Ask for Catalog 80-A

NEW

IMPERIAL SINGLE-GAUGE CHARGING AND TESTING UNIT



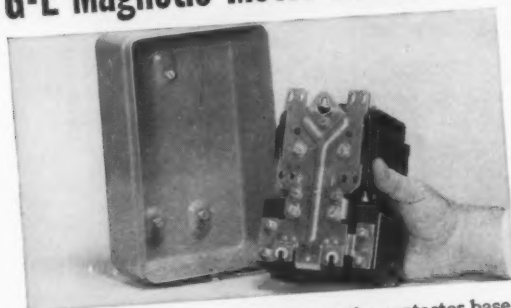
Exceptionally compact and easy to carry. Performs a variety of charging and testing operations. $2\frac{1}{2}$ " compound gauge reads 30" to 60 lbs., vacuum in 1" calibrations.

No. 401-C Unit without gauge.	
Net each.....	\$2.85
No. 402-C Unit with $2\frac{1}{2}$ " gauge.	
Net each.....	5.20

Circle No. 4 on Reader Service Card for more information

"AT LAST—A MOTOR STARTER THAT'S EASY TO INSTALL"

Says James Deeg about the New G-E Magnetic Motor Starter →

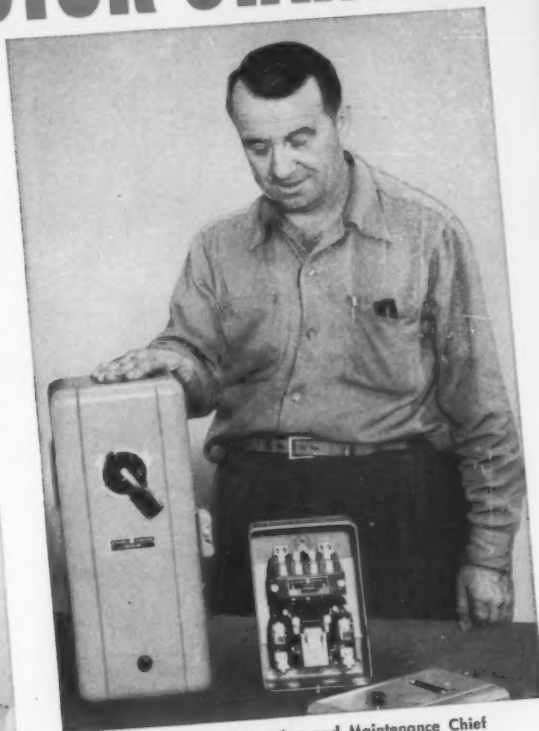


1 ↑ "Take these keyhole slots on the contactor base. After I've mounted the empty case on a wall or machine, all I do is clip the contactor into position by placing the keyhole slots over the mounting screws. Plenty of knockouts in the case, too."

2 → "Then, when it's time to make electrical connections, I can do that in a hurry because the terminals are easy to get at. These big panhead screws and saddle-type connectors make it even easier to make rigid connections. And if the screwdriver slips, it can't hurt the windings of the coil."


That's the molded-plastic Strongbox Magnet Coil that Mr. Deeg is talking about, just one of the unusual features of the new G-E motor starters.

For details on the full line of G-E starters write for Bulletin GEA-5153, Section C 730-22. Obtain prices and shipping data from the local G-E office or your authorized G-E distributor. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

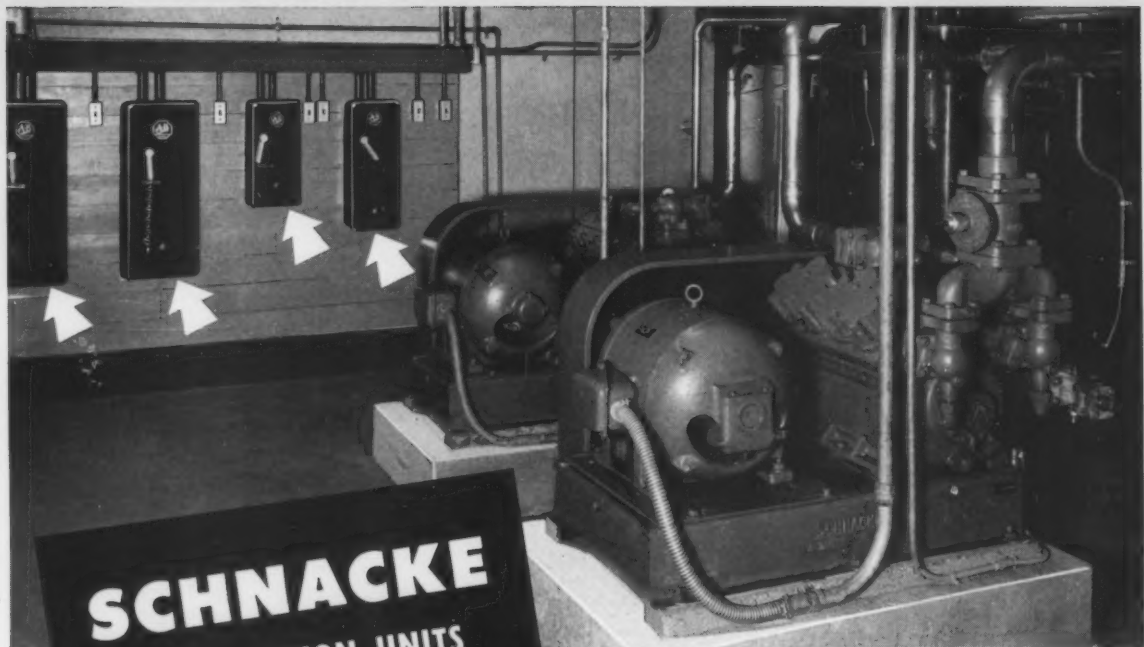


James Deeg, Construction and Maintenance Chief for Collins-Hegberg Electric Co., St. Paul Contractors



You can put your confidence in—
GENERAL  ELECTRIC 730-22

Circle No. 5 on Reader Service Card for more information



SCHNACKE

REFRIGERATION UNITS
equipped with

**ALLEN-BRADLEY
TROUBLE FREE
MOTOR
CONTROLS**

Two Schnacke compressors, 30-ton main load and 20-ton stand-by unit, installed in the building of Interstate Finance Corporation. These compressors are equipped with Allen-Bradley combination starters.

Why are Allen-Bradley starters so popular for refrigeration and air-conditioning service? . . . because they are trouble free. Only ONE moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

No contact maintenance . . . Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

Dependable overload relays . . . Allen-Bradley thermal relays are accurate and always dependable . . . even after long service.

The Allen-Bradley trademark stands for millions of trouble free operations.

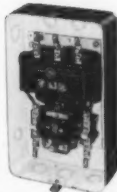
Allen-Bradley Co.

1340 S. Second Street, Milwaukee 4, Wisconsin.



TYPICAL REFRIGERATION CONTROLS

**AUTOMATIC
STARTER**



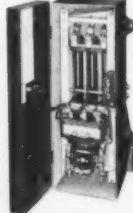
Allen-Bradley
Bulletin 709
solenoid starter.

**COMBINATION
STARTER**



A-B Bulletin 712 dis-
connect switch type
combination starter.

**VELVET SMOOTH
STARTER**



A-B Bulletin 640
manual resistance
type starter.

ALLEN-BRADLEY SOLENOID MOTOR CONTROLS

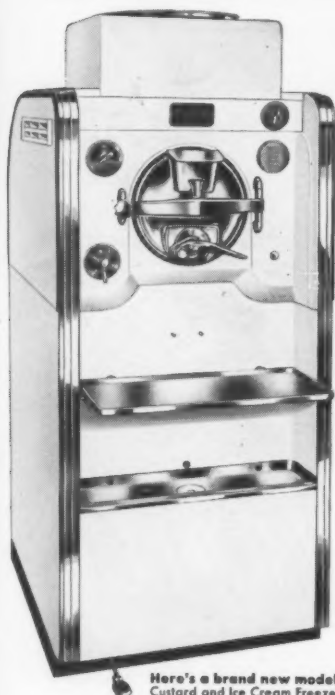
Circle No. 6 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

NEW

1951 MILLS ALL IN ONE FREEZERS

Designed and Priced for Faster Selling!



Here's a brand new model—The 1951 Mills Hopper Continuous Custard and Ice Cream Freezer (pumpless) is lower priced, simpler to operate and clean. 80% of your freezer buyers will want this Mills. This model is available with the new Draw-Off Custard Spigot.

NEW

Gravity-Fed Refrigerated Hopper Model. Lower price, simpler operation—wider distributor sales opportunities!

NEW

* Draw-Off Custard Spigot available on all 1951 Hopper and Pump models!

NEW

* Extra Heavy Drive Head. Greater strength for lower temperatures!

NEW

* Two horse-power Agitator Drive Motor interchangeable with standard motor for extra low temperature custard operations.

*These are the only suggested changes offered by our nation-wide Distributor organization in 1951!



The 1951 Mills Pump-Fed Refrigerated Side Cabinet Model is designed especially for the large operator. It provides great convenience and assures a steady supply of custard or ice cream. The new sanitary Draw-Off Spigot shown serves custard with the utmost speed and ease.

MILLS A GREAT NAME THAT SELLS A GREAT LINE FOR YOU TO SELL

The Mills name on counter freezers has meant top quality for 21 years. Every prospect knows and respects that name. He may not be familiar with the new 1951 models and features, but when you say *Mills*, your selling job becomes easier.

Therefore, the Mills line is a great line for you to sell. There is a model for every location. New products are being developed to make the line even larger and more profitable. Watch for these developments.

New and improved features on the 1951 line make fine machines even finer, and provide distributors with carefully engineered and tested selling features. Sales come faster, profits grow bigger, and service becomes lower when you sell Mills All-In-One Freezers!

MILLS INDUSTRIES

INCORPORATED

4104 Fullerton Ave., Chicago 39, Illinois

Circle No. 7 on Reader Service Card for more information

and AIR CONDITIONING • MARCH, 1951

Highly Profitable Territories are now Open for Reputable, Live-Wire Distributors

Due to present conditions, we have adjusted our sales plans, and distributorships are now open. Production quotas have been increased as a precaution against restrictions later. However, we expect an early season and suggest that potential distributors act at once.

We have a comprehensive sales plan backed up by a big national advertising campaign. Promotional material including mailers and free ad mats are available. Of course, Mills' very liberal discounts are expected to remain the same.

For more details, use the coupon. You will find Mills Freezer men the same reliable, helpful men that have been serving your industry for years. They will cooperate with you and your sales force.

MR. A. E. WILSON, SALES MANAGER, FREEZER DIVISION
Mills Industries, Inc., 4104 Fullerton Ave., Chicago 39, Ill.

Please send me ☐ 1951 literature or ☐ full information on profit potentials, and territories available in and around my area.

Name _____

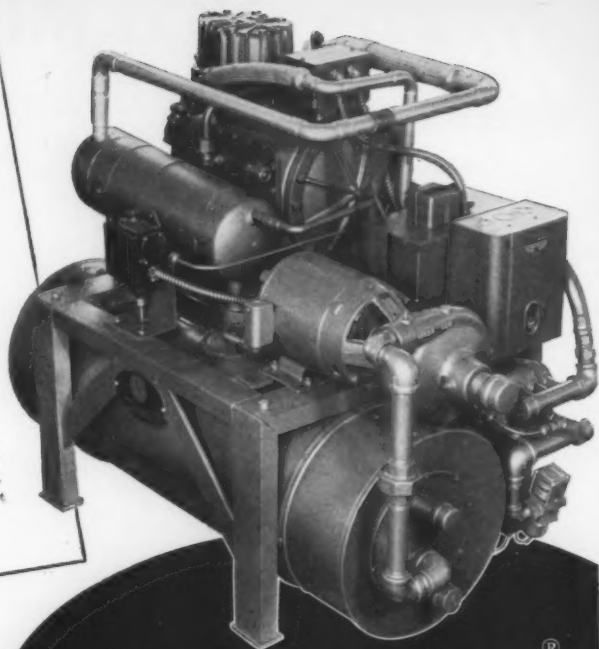
Company Name _____

Address _____

City _____ Zone _____ State _____

**OPENS
UP NEW
MARKETS**

Acme



FLOW-COLD

LIQUID CHILLERS

**Low Cost Process Temperature Control
For Industry With Acme Flow-Cold***

For EVERY industrial application where production can be speeded up or improved through process temperature control, ACME FLOW-COLD* Units offer a practical, efficient low cost solution. Easily adapted for cooling water, coolant cooling, solution cooling, production welding, mold cooling, laboratory cooling or any Industrial Process Temperature Control. Equally suited to Air Conditioning. Here at last, is a fool proof, simple and efficient Unit for HEAT PUMP application. Matching Acme Convectors, Coils and Cooling Towers are also available.

ACME ALSO MANUFACTURES: Dri-Ex® Water Coolers
—Hi-Peak® Water Coolers—Evaporative Condensers
—Shell and Coil Condensers—Shell and Tube Condensers—Fin Coils—Cooling Towers—Oil Separators—
Liquid Receivers—Heat Exchangers.

ACME FLOW-COLD UNITS:

- Cut costs and increase production.
- Are safe and compact.
- Versatile, easily controlled.
- Factory assembled and tested.
- Complete, ready to connect.

Contact your nearest distributor or write direct for complete information and specifications. We are looking for a few outstanding Dealers and Jobbers to complement our fine distributing organization.

*Trade Mark

"Continuously serving the Air Conditioning and Refrigeration Industry SINCE 1919."



ACME INDUSTRIES, INC.

JACKSON, MICHIGAN



Circle No. 8 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

**By Comparison...You'll Buy
PAR and PARMETIC!**

PAR...

The Complete Quality Line!

PAR...

**conventional condensing
units $\frac{1}{8}$ to $7\frac{1}{2}$ h.p.
air cooled, water cooled
and combination!**



Model HWC-50
5 H.P.

PARMETIC...

**the ultra-quiet sealed
unit $\frac{1}{8}$ to $\frac{1}{3}$ h.p. that can
be serviced in the field!**



Model PM-0 $\frac{1}{8}$ H.P.

BY COMPARISON—YOU'LL BUY PAR and PARMETIC



PAR AIR
COMPRESSORS



PAR
REFRIGERATION
COMPRESSORS



WRAP-O-MATIC
CANDY & COOKIE
WRAPPING
MACHINES

LYNCH

**CORPORATION
PAR COMPRESSOR DIVISION
TOLEDO, OHIO**



MORPAC
PAPER PACKAGING
MACHINES



MORPAC
BUTTER & OLEO
CARTONING
MACHINES

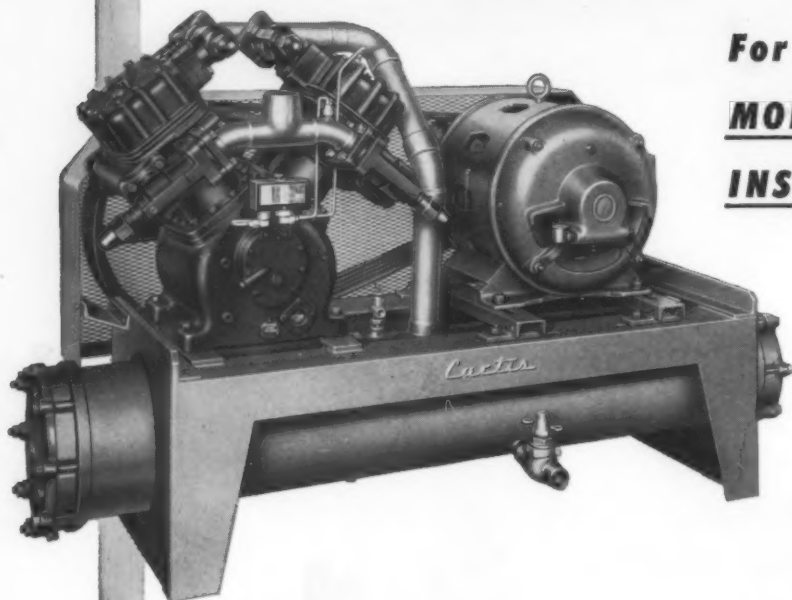


GLASS FORMING
MACHINES

Circle No. 9 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

NOW A 40 H. P. CURTIS

WATER-COOLED CONDENSING UNIT



For LARGER,
MORE PROFITABLE
INSTALLATIONS

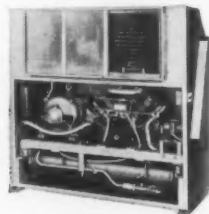
Some of the advanced design features that have made Curtis units so popular with the trade and the user in these larger models are:

- TIMKEN BEARINGS — LESS FRICTION — Easier adjustment.
 - PRESSURE LUBRICATION — With low-pressure safety cut-out.
 - SLOW-OPERATING SPEED — Economical — More capacity — Long Life.
 - UNLOADED STARTING — 3-step capacity reduction
- Complete range of condensers for any requirement.

With the broad Curtis line, you can handle all of the more profitable air conditioning and refrigeration installations. A limited number of franchises are open. Write giving full details.



Packaged Type,
2, 4, 6, 8 Tons



Central Type,
10, 15 Tons

97 Years of Successful Manufacturing
CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1915 Kienlen Avenue, St. Louis 20, Mo.



R-51-3



Circle No. 10 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION



*a good tip for
wise refrigeration men:*

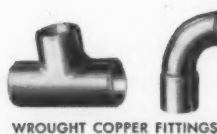
**Always use
dependable quality built
MUELLER BRASS CO. parts.**



**8 good reasons why it pays
to stock, specify and install
Mueller Brass Co. STREAMLINE
Globe Type Valves.**

- Positive shut-off always assured with the amazing nylon stem seating disc.
- "O" ring provides a permanent, positive seal against any loss of refrigerant.
- No bolts — no flanges — no gaskets.
- New design eliminates excessive weight.
- Can be disassembled and ready to solder into the line in 10 seconds.
- Stem of corrosion resistant aluminum bronze.
- Highly polished red bronze body.
- Sizes $\frac{3}{8}$ " to $4\frac{1}{2}$ " O.D. Order from your refrigeration wholesaler.

**Have these STREAMLINE products
on hand for every job where you
want dependable performance.**



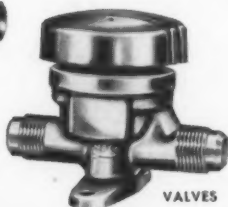
WROUGHT COPPER FITTINGS



FLARE FITTINGS



LIQUID INDICATORS



VALVES



DRIERS AND FILTERS

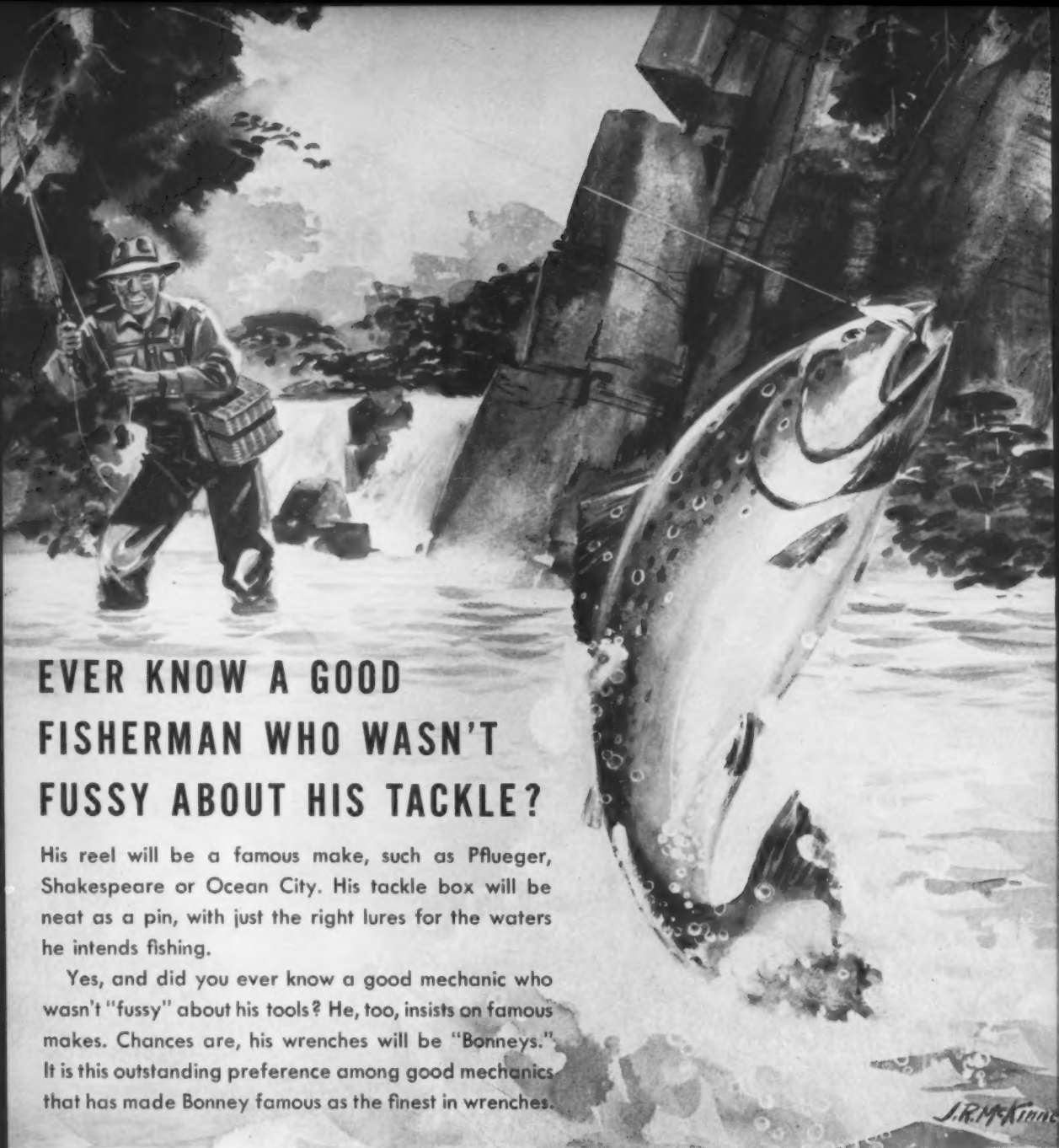


Write for catalog R-151
describing complete line
of STREAMLINE refrig-
eration products.

STREAMLINE refrigeration
products are individual
and multiple packaged
for complete protection.

MUELLER BRASS CO. PORT HURON 12, MICHIGAN

Circle No. 11 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951



EVER KNOW A GOOD FISHERMAN WHO WASN'T FUSSY ABOUT HIS TACKLE?

His reel will be a famous make, such as Pflueger, Shakespeare or Ocean City. His tackle box will be neat as a pin, with just the right lures for the waters he intends fishing.

Yes, and did you ever know a good mechanic who wasn't "fussy" about his tools? He, too, insists on famous makes. Chances are, his wrenches will be "Bonneys." It is this outstanding preference among good mechanics that has made Bonney famous as the finest in wrenches.

This is one of a series of spirited sporting scenes (in full color, without advertising) available on request. Write for your free set today.

"CHEAP TOOLS ARE FOR CHUMPS", say men who know tools best. And the highest recommendation for Bonney Wrenches is the kind of men who use them.

Among thousands of real mechanics, "Bonney" is just another way of saying "best." For lightness, strength, balance and precision you can't beat a Bonney.



BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

"AIR CONDITIONING BUSINESS?"

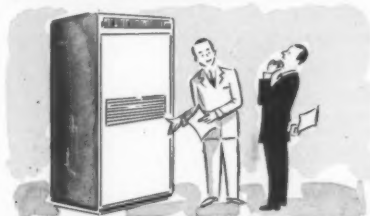
*I was ready to give it up!" **



My end-of-the-season figures showed me I wasn't clearing a dime on our air conditioning business...



Then a Typhoon dealer I met at an air conditioning show told me about the Typhoon Profit Plan...



Are those Typhoon units rugged! Say they ought to be... Typhoon engineers have 42 years of air cooling experience behind them.



I've got to hand it to those Typhoon district sales managers — they gave my boys 100% backing...



And with the wide range of Typhoon sizes, I was able to bid on many jobs I couldn't touch before.



The first season I sold 25% more units than before—and my profits were up 40%. Brother, I'm back in the air conditioning business!

*Talk to TYPHOON Now
about the 5 Point
Profit Plan*

*A typical Typhoon case history — other success stories on request.



TYPHOON
Air Conditioning
UNITS
1½ to 20 Tons

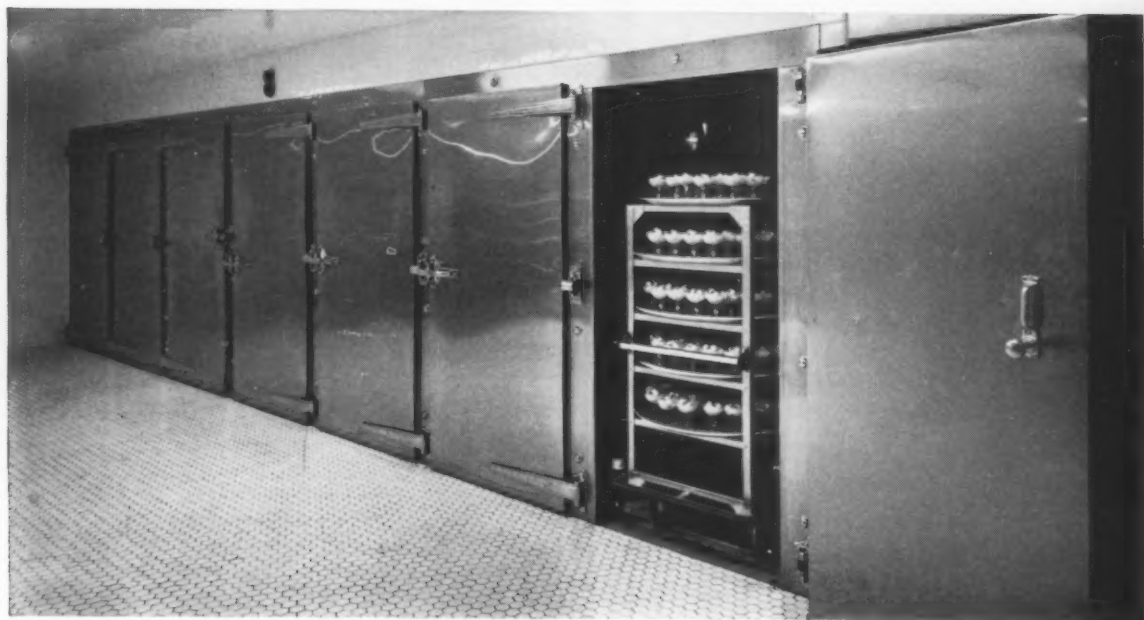
TYPHOON AIR CONDITIONING CO., INC.
794 Union Street, Brooklyn 15, N. Y.



The SHOREHAM serves
2,000 fruit cups at one time . . .



. . . through sanitary, efficient **JAMISON** doors



*Seven Jamison cold storage doors in the salad kitchen
at The Shoreham Hotel completely metal clad with polished
stainless steel and equipped with chrome plated hardware.*



The leader for more than 50 years

At Washington's Shoreham Hotel the fruit cup and salad always have that crisp, freshly prepared taste whether the party consists of two or two thousand. You'll find the secret in advance preparation and storage at exactly the right temperature to maintain crispness and flavor.

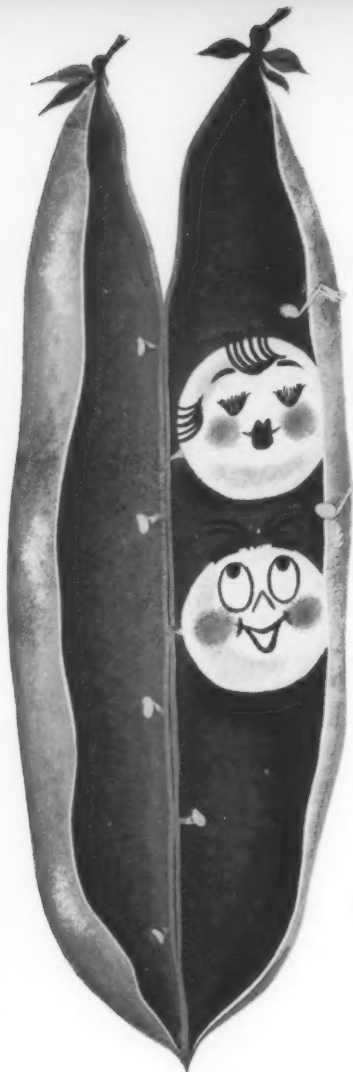
Easy access to the shallow salad cooler is provided by a group of Jamison stainless steel cold storage doors. They match in attractive appearance and ease of cleaning the all-tile kitchen where they are installed.

You will find a Jamison door for every cold storage requirement. The line of standard doors will meet most needs and special designs will be built to your specifications. For full information on the line of Jamison doors, request Catalog 175.

JAMISON COLD STORAGE DOOR CO. • HAGERSTOWN, MD., U. S. A.

Circle No. 14 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION



$\pm 10^{-3}$

If two peas in a pod were alike to $\pm .001''$ —that would be a fair description of the bore uniformity of ANACONDA Restrictor Tube.

The tiny I.D., tube to tube, must be *that* uniform (or less, when specified).

Its inside surface must be flawless from end to end.

Its temper must be uniform from end to end.

Every tube in an order must be exactly like every other in all of these respects.

And every tube in every reorder must be identical with the tubes previously supplied.

ANACONDA Restrictor Tubes meet each of these requirements with satisfying regularity.

When you put ANACONDA Restrictor Tubes in your refrigerating units, you know they will perform the way you expect.

We would like to tell you more about the fine features of our restrictor tubes. Just write to The American Brass Company, Waterbury 20, Connecticut.

8121

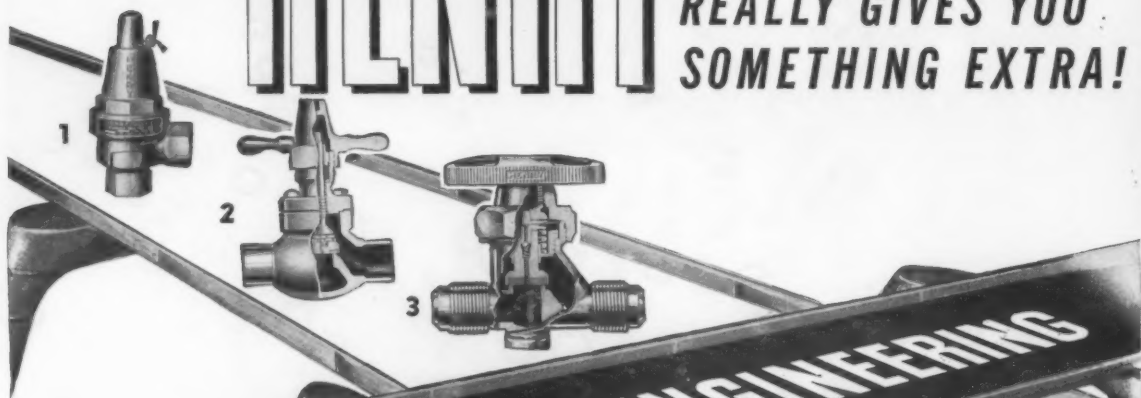
Precision-made for refrigeration **ANACONDA[®] RESTRICTOR TUBES**

Circle No. 15 on Reader Service Card for more information

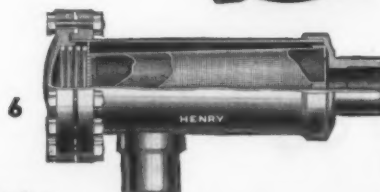
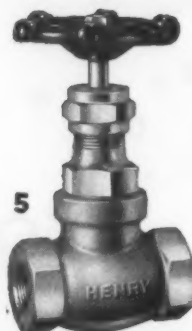
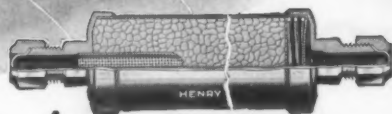
and AIR CONDITIONING • MARCH, 1951

HENRY

REALLY GIVES YOU
SOMETHING EXTRA!



- 1 RELIEF VALVES** diaphragm construction, positive controlled cushion reseating with relief capacity that meets latest code requirements.
- 2 WING CAP VALVES** greater flow, bolted bonnet and self-aligning stem disc.
- 3 PACKLESS VALVES** still the only Balanced-Action valve on the market—no extra cost.
- 4 DRIERS** forged brass end caps with integral fittings, natural finish, Abso-Dry pressure sealed, dispersion tube and extra capacity.
- 5 AMMONIA VALVES** compact and strong, self-aligning stem disc.
- 6 STRAINERS** forged brass end caps with integral fittings, reinforced screen, large filtering area, distortion-proof clean-out flange.



Sold by
Leading Wholesalers

HENRY VALVE CO.

Valves • Driers • Strainers • Control Devices and Accessories
for Refrigeration, Air Conditioning and Industrial Applications

MELROSE PARK, ILL. (CHICAGO SUBURB)
CABLE: HEVALCO, MELROSE PARK, ILLINOIS



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MARCH, 1951 • COMMERCIAL REFRIGERATION

Every G-E Condensing Unit offers these 5 extra values!

1,000,000-UNIT EXPERIENCE

Over the last twenty-five years General Electric has placed in operation in commercial applications more than a million units. Right in your community there are many G-E Condensing Units proving day after day the effectiveness of the right design, materials, and workmanship.

TOP CUSTOMER ACCEPTANCE

Let the widespread acceptance of General Electric products work for you.

OVER-THE-COUNTER SERVICE THROUGHOUT THE U. S.

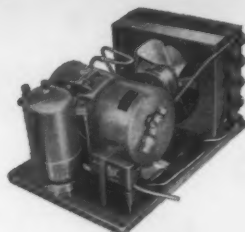
All over the country there are G-E Refrigeration Equipment Wholesalers and Renewal Parts Depots ready to handle all your requirements on the spot. Whether you need complete units or only parts, these authorized wholesalers offer fast, efficient over-the-counter service.

YOUR CHOICE OF A FULL RANGE OF 35 MODELS

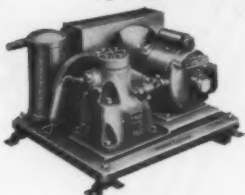
For every commercial refrigeration and small air conditioning application—both self-contained and remote—you will find a suitable G-E Condensing Unit. Choose from 10 Hermetics from $\frac{1}{8}$ to $\frac{1}{2}$ HP and 25 Open Type Units from $\frac{1}{4}$ to 10 HP.

SIMPLE IN-WARRANTY REPLACEMENT POLICY

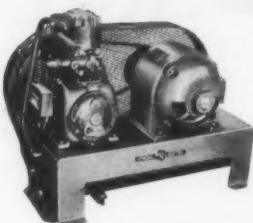
The G-E standard warranty covers every G-E Condensing Unit. This warranty builds your customers' confidence and goodwill. But—more important to you—replacement units and parts are quickly and easily available at any of G.E.'s authorized wholesalers.



Sealed Units
 $\frac{1}{8}$ to $\frac{1}{2}$ HP



Open Type Units
 $\frac{1}{4}$ to 2 HP



Open Type Units
3 to 10 HP

G-E compressor bodies available
in sizes from $\frac{1}{8}$ to 10 HP

SEE YOUR NEAREST G-E REFRIGERATION EQUIPMENT WHOLESALER
AND RENEWAL PARTS DEPOT FOR



Condensing Units and Renewal Parts

WRITE to General Electric Company, Section CR-5, Air Conditioning Department,
Bloomfield, N. J. for free literature on G-E sealed and open units.

You can put your confidence in—

GENERAL  ELECTRIC

Q: Why is Thermopane's Bondermetic Seal important to you?

A: For clear vision and trouble-free performance in refrigerated cases, insulating glass is only as good as its seal. Hence, the *Bondermetic Seal* in *Thermopane** is important for you to know about. It is the best glass seal made.

OVER 1,500,000
UNITS IN USE
in refrigerated cases
and various kinds
of buildings.

Q: WHY IS BONDERMETIC THE BEST SEAL?

A: Because this metal-to-glass seal is *airtight*—hermetically sealed. The clean, dry insulating air between the panes of *Thermopane* is not subject to changes in moisture content. No desiccant is necessary to absorb excess interior moisture. The sealed air space has a uniform ability to insulate against heat.

Q: WHAT'S THE SEAL MADE OF?

A: Of a lead spacer and a special copper alloy we developed after more than 2,000 tests with all sorts of organic and inorganic materials. These durable metals will not corrode or rust under normal conditions. They are flexible to withstand strain.

Q: HOW IS THE SEAL PUT ON?

A: A continuous strip of copper is bonded to the inner surface along the edge of each pane—then the lead spacer is heat-bonded to the copper alloy. Glass, copper band and lead spacer are joined into one strong, solid unit.

Q: HOW DO WE GET THE AIR DRY AND ASSURE AN AIRTIGHT SEAL?

A: Following this assembly, filtered, dehydrated air is passed through the unit for a pre-determined length of time to remove moisture-laden air. Each *Thermopane* unit is then tested by a scientific method so sensitive that an airtight seal and maximum performance are assured.

When you sell refrigerated cases that are glazed with *Thermopane*, be sure to tell prospects about this important feature. Food merchants already know many of its advantages through reading L·O·F advertising in their trade publications. Be sure to cash in on this selling point, for bigger sales, better-satisfied customers.

Cutaway view of
Thermopane Unit

- A Three (or more) panes
- B Spaces for dry, clean air
- C Copper alloy bands } *Bondermetic Seal**
- D Lead alloy spacers }

Ask your supplier to show you his line of *Thermopane*-glazed refrigerated cases.
Libbey-Owens-Ford Glass Company, 2931 Nicholas Building, Toledo 3, Ohio.

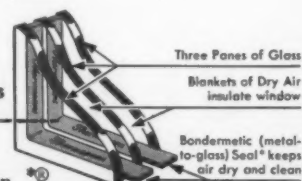


Thermopane

LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES

FOR BETTER VISION SPECIFY Thermopane MADE WITH POLISHED PLATE GLASS

Circle No. 18 on Reader Service Card for more information



Servel's **NEW WARRANTY PLAN**

**REQUIRES NO PARTS EXCHANGE DEPOSIT
ELIMINATES FACTORY TRANSPORTATION COSTS**

When you need replacement parts for Servel condensing units, there's no waiting for factory approval on a warranty exchange. You simply take the defective part to a nearby Servel Parts Supplier who checks the power unit, compressor, or other part, and if defective under the terms of the warranty, you obtain your needs in a matter of minutes . . . without the bother of a cash deposit.

And, you pay no factory shipping costs, because Servel now *absorbs these charges* on all exchange parts shipped *from the factory to its supply depots*. This is the kind of friendly assistance and attention Servel offers dealers and service engineers everywhere. Exchange transactions can be handled *directly* with any one of the more than 90 Servel Authorized Parts Suppliers. There's no need to delay repairs or make customers wait for factory approval, because Servel parts supply depots are equipped to take care of your requirements quickly, when you need replacements most.

**SUPERMETICS
ARE AVAILABLE
EVERYWHERE**

Servel

S U P E R M E T I C

Models for every electric refrigeration
and air-conditioning use . . . 1/5 to 5 H.P.



Servel's FIVE-YEAR Protection Plan has now been broadened to cover all steel-case hermetically sealed models.

Larger cast case Supermetics are covered by a warranty that provides exchange parts for a full year from installation date.

So, when you need a unit for a new fixture, need repair parts, or want to replace a unit that's obsolete, see your nearby Servel Authorized Parts Supplier. You'll make a good deal when you buy Servel.

For complete information, about Servel's New Warranty plan and address of your nearest Parts Supplier mail the coupon today.

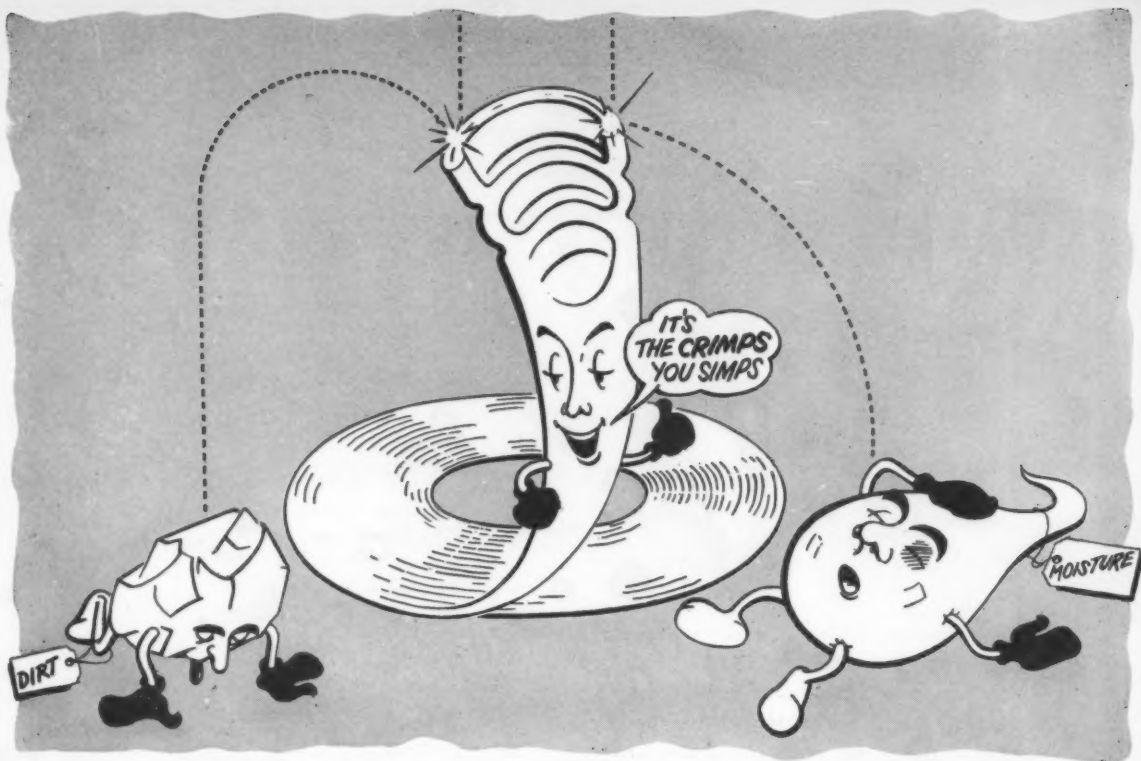
SERVEL, INC.
ELECTRIC REFRIGERATION DIVISION
DEPT. C-3 EVANSVILLE 20, INDIANA

NAME (personal) _____

TITLE _____

COMPANY _____

ADDRESS _____ ZONE _____ STATE _____



These Pests haven't a chance of getting into..

REVERE

DRYSEAL

refrigeration tube

●Dryseal gives dirt and moisture the bounce at the factory. A special, precise, mechanical double-crimp seal is made at each end of the tube when it is manufactured. This means Dryseal is delivered to you bone-dry and free from dirt. The seal is made in such a way that the diameter of the tube does not change, which permits Dryseal to be passed through any opening large enough for the tube itself.

While Dryseal may be stubborn about keeping out

dirt and moisture it's a soft touch when it comes to bending. The soft temper of the copper used in Dryseal allows you to make the most intricate bends by hand. And its ductility and soft temper make it extremely easy to flare for compression fittings without danger of splitting. Economical tube sizes range from $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D.

And, for your greater convenience we have just recently brought out Dryseal in a nifty-50 one-coil carton. This carton, which has been attractively designed for easy identification in stock, contains one 50-foot coil of Dryseal . . . is easier to handle, light weight, economical.

**NOW in the
NIFTY-50
one-coil
carton!**



REVERE 150TH YEAR OF
SERVICE
TO AMERICA
COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—
Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY



Servicing the nation . . .
and free people the world over



ANSUL

REFRIGERATION PRODUCTS



Pat. U. S. Pat. Off.

KINETIC
"FREON"
REFRIGERANTS

A

NSUL leads the nation and supplies the FREE World with highest quality Refrigerants and Refrigeration Products.

Ansul's Sulfur Dioxide, Methyl Chloride, and Refrigeration Oil are endorsed by leading service men, wholesalers, and manufacturers everywhere. They have met every challenge of the industry with confidence aided by the unsurpassed dependability and "on the job" technical service which is part of the Ansul guarantee.

Ansul is a national leader in the distribution of DuPont's (Kinetic) "Freon" products. Users turn to Ansul for all their Refrigerant needs and enjoy the benefits of dealing with pioneers and leaders in the field of Refrigeration.

There is an Ansul Wholesaler near you. Take your problems to him. The help of his organization of capable technicians, with the backing of the entire research and engineering staffs of Ansul Chemical Company, are yours for the asking — at no cost or obligation.

ANSUL All-Temperature REFRIGERATION OIL



ANSUL CHEMICAL COMPANY

REFRIGERATION DIVISION, MARINETTE, WISCONSIN

ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC "FREON" REFRIGERANTS
ALSO MANUFACTURERS OF INDUSTRIAL CHEMICALS AND DRY CHEMICAL FIRE EXTINGUISHERS

Circle No. 21 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

YOU

ENGINEERING?
ADAPTABILITY?
DEPENDABILITY?



...and our complete line



Tenney Mighty Midget Unit Cooler—Unsurpassed unit for Back Bars, Under Counter Boxes, Reach-In Coolers sized from 16 to 30 cubic feet. It's compact efficient, requires no lubrication and minimum maintenance. The Mighty Midget is just another example of Tenney's ability to supply the cooling unit best equipped to handle a particular job. You can't go wrong with Tenney.

The Tenney organization is made up of specialists who know every phase of refrigeration engineering. Their advice is sound, is based on years of experience in pioneering and developing temperature and humidity control equipment which has become standard throughout the industry. Their assistance is yours for the asking—will prove invaluable whenever you are faced with a problem that is far out-of-the-ordinary.

Adaptability? That and more—for Tenney is an organization of specialists in solving unusual needs. Tenney's standard line of refrigeration units meets every ordinary need, but when special units, special requirements must be filled Tenney can either adapt existing equipment as a solution to individual needs—or can engineer and build equipment which is uniquely able to handle special requirements.

Dependability? Tenney temperature and humidity control equipment is known as standard in the refrigeration industry, wherever it has been installed. It has earned a solid reputation for trouble-free, low-cost, operation and maximum efficiency under all operating conditions.

Remember—you always get more from Tenney. Literature and further information on request. Write to

**Tenney Engineering, Inc., Dep't F,
26 Avenue B, Newark 5,
New Jersey**



Tenney

Engineers and Manufacturers of Automatic Temperature, Humidity and Pressure Control Equipment

Circle No. 22 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

"All motors are NOT alike!"

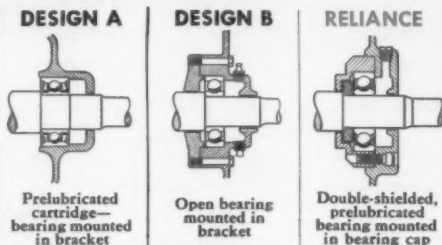
Check these

15 Reasons Why

the **RELIANCE** Bearing Design

is the **BEST** one!

**ONLY
ONE MOTOR
HAS ALL THESE
DESIGN
FEATURES:**



	DESIGN A	DESIGN B	RELIANCE
Bearing sealed from dirt and other foreign material	YES	NO	YES
Enclosed bearing housing	NO	YES	YES
Bearing can be re-lubricated without being disassembled	NO	YES	YES
Motor can be re-greased without removing drain plug	**	NO	YES
Automatic grease relief to suit any lubrication system	NO	NO	YES
Protection against grease entering windings	YES	*YES	YES
Balls free of direct pressure during lubrication	YES	NO	YES
Bearing can be removed without danger of distortion	NO	NO	YES
Reservoir to protect against under-greasing	NO	YES	YES
Standard commercial ball bearings	YES	YES	YES
Larger grease reserve than provided with any standard bearing	NO	YES	YES
Grease supply free of churning action	NO	NO	YES
Measuring unnecessary to prevent overgreasing	NO	*YES	YES
Unnecessary to grease equally at each side of ball race	NO	YES	YES
Lubricant is retained in ball race	YES	NO	YES

** Means is not provided for relubrication of assembled motor.
*YES, if drain plug is removed.

The Reliance Pre-lubricated Bearing Design has all of the features vital to maximum motor life. Check these points in the chart at left. The performance of Reliance PRECISION-BUILT Motors in all industries and under all operating conditions has proved their value in long-wearing, trouble-free bearing design.

In most applications, Reliance PRECISION-BUILT Motors operate satisfactorily for years without relubrication. Where it is a practice to grease regularly or where operating conditions make it desirable . . . it is impossible to overgrease a Reliance Motor. Write for new Bulletin B-2201 for the "inside story" of the Reliance Pre-lubricated Bearing Design.



Reliance PRECISION-BUILT A-c. Motors from 1/4 to 300 Hp.



Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

"All Motors are NOT Alike" • 1113 Ivanhoe Road, Cleveland 10, Ohio

Circle No. 23 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

COMPARE!

Tyler gives you from 30% to 50% greater accessibility!



Merchandise in Tyler Frozen Foods Case as it appears to shopper

Tyler's tops in wide-open accessibility!



Ordinary case with narrow opening makes it hard to see, hard to buy.



Tyler case with wide opening speeds up and encourages buying!

Check dimensions, check specifications—see how much easier Tyler makes it for your customers to select, to buy more, faster! The Tyler Frozen Foods Display Case, for instance, gives you a full 21" opening—30% to 50% greater accessibility than competitive cases! Remember this wide-open accessibility is just one of Tyler's famous Advanced Design features that mean *more sales, more profits for you!* Tyler Fixture Corp., Niles, Mich.

TYLER
FOR FOOD REFRIGERATION

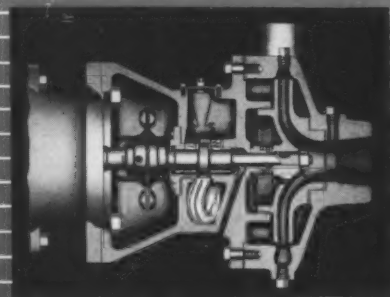
ONE OF A SERIES OF ADVERTISEMENTS RUNNING IN LEADING FOOD STORE PUBLICATIONS.

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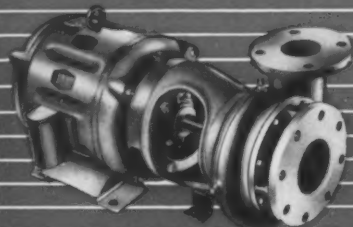
MARCH, 1951 • COMMERCIAL REFRIGERATION

FOR AIR CONDITIONING AND REFRIGERATION APPLICATIONS...

B & G PUMPS *Challenge Comparison*



This inside view of a B & G Series 1522 Pump shows why it is a pump worth looking into.



B & G Series 1531 Centrifugal Pump—with tool-proof Mechanical Seal.



These B & G catalogs enable you to select the proper pump for your job. Send for your copies.

For eight common-sense reasons, the B & G Series 1522 Centrifugal Pump should be the heart of your water-saving equipment. In cooling tower or evaporative condenser installations you can bank on failure-proof performance and operating economy. Look at these features—

- First: Leak-proof Mechanical Seal—ends stuffing box troubles.
- Second: Spring-type flexible coupling—contributes to unusually quiet operation.
- Third: Hydraulically balanced impeller.
- Fourth: Easily serviced. Removal of a few bolts permits separation into three parts.
- Fifth: Interchangeable parts. The bearing bracket sub-assembly, including shaft and sleeve bearings, is manufactured to close tolerances and is interchangeable in all 1522 Pumps.
- Sixth: Shaft alignment maintained by oil lubricated, high grade bronze sleeve bearings.
- Seventh: Standard motors—easily obtainable from motor manufacturer's stocks.
- Eighth: With all these features, B & G 1522 Pumps are competitively priced!

Send for complete data on B & G Refrigeration Equipment



*Hydro-Flo**

REFRIGERATION EQUIPMENT

BELL & GOSSETT COMPANY

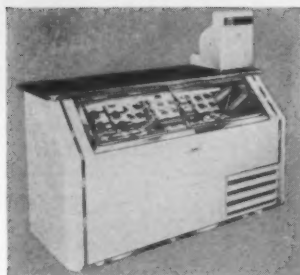
Dept. BY-45, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Road, Toronto, Canada

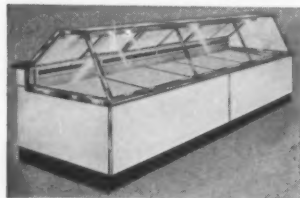
*Reg. U. S. Pat. Off.

Circle No. 25 on Reader Service Card for more information

and AIR CONDITIONING • MARCH, 1951



EXCLUSIVE DESIGN FREEZERS



ALL GLASS & PORCELAIN
DISPLAY CASES



SELF-SERVICE MERCHANDISERS



REACH-IN REFRIGERATORS



SECTIONAL WALK-INS

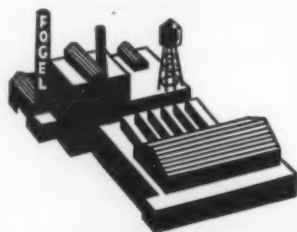
HAVE YOU GOT "WHAT IT TAKES"?

You're in the commercial refrigeration business for a profit. But frankly, even though you have a good reputation, make calls and work hard you're up against a stone wall unless you have a complete line that "has what it takes," to make the kind of profit you're entitled to.

*Here Is **PROOF** That the FOGEL Line
Has "What It Takes" to Close Sales, Make Profits!*

- **COMPLETENESS OF LINE—MAKES YOUR SELLING JOB FAR EASIER**
You meet every need of every customer from one nationally advertised manufacturer. You don't have to jump from line to line, or from sales story to sales story.
- **SALES FEATURES AND EXCLUSIVE PRODUCT DESIGN**
FOGEL'S many features are found in no other line—offer you an easy entree and helps maintain your profit margin against price-cutting competition.
- **SPECIAL ORDER DEPARTMENT**
FOGEL does not stop with standard models. Our engineers are ready, willing and able to design new models for special applications.
- **QUALITY PRODUCT**
Beautiful styling and solid construction combined with excellent refrigeration—handsome inside as well as out.
- **PRICES**
Competitive prices and generous profit-margins.
- **ADVERTISING**
A sound and aggressive advertising campaign aimed directly at your most productive local market, to provide product name acceptance and retail prospects for you.
- **PROGRESS**
Engineers constantly at work to bring you tomorrow's newest product developments today.
- **NATIONALLY KNOWN NAME**
Backed by over half a century of experience and world-wide acceptance.
- **SERVICE**
Free services of professional store planning engineers to help you close the larger or more important sales.
- **PROTECTED FRANCHISE**—Insures your profit.

*Don't Delay—Write Today for Fogel Dealer Franchise
Proposition . . . Your Territory May Still Be Open!*



*Modern 4 Acre Plant
Geared to Mass Production*

Circle No. 26 on Reader Service Card for more information

FOGEL

REFRIGERATOR COMPANY

Kennedy at Eadom St., Philadelphia 37, Pa.

I WANT FACTS...

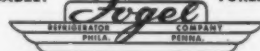
Please send me facts about an exclusive Fogel Dealer Franchise.

Name

Address

City..... State.....

CABLE: **Fogel** "FOREFCO"



*It's the little extras
that keep systems
running smoothly*



These little fittings are more than just the means of making a connection or rounding a corner. If they are quality-made and engineered for the job, you'll find that they will keep a system running smoother, longer. And Superior fittings do just that. These little extras do the trick — flare protectors — longer dry-seal threads — forged elbows, tees and crosses — and longer, heavier hexes.

All these make your job a lot easier — and keep the system operating longer.

Your local wholesaler can supply you with Superior fittings

Superior valve and fittings co.



Pittsburgh 26, Pa.

Circle No. 27 on Reader Service Card for more information

and AIR CONDITIONING • MARCH, 1951



The Bronx Zoo in New York City is one of the largest in the world and contains nearly every known species of bird and animal in existence.



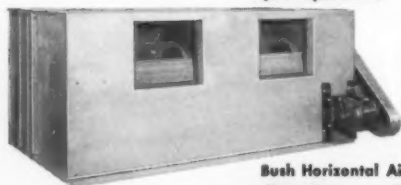
Come on in . . . THE WEATHER'S FINE



Bush Vertical Air Handling Unit . . . 5 to 60 tons.



Bush Comfort Conditioner . . . smart appearance, quiet operation.



Bush Horizontal Air Handling Unit . . . 5 to 60 tons.

PENGUINS ARE fussy folks who like to keep cool in Summer . . . in fact they insist on it. A Bush Horizontal type air handling unit maintains the Bronx Zoo's new Penguin House (shown above) at a year-round temperature of 50° . . . makes it no longer necessary to "store" King Penguins in a refrigerator tank during warm weather.

Here again, as in countless other applications, Bush is doing a dependable, economical job . . . the kind of job you need and demand for your requirements. Get acquainted with the Bush Representative in your territory. He's a man worth knowing.

Buy the Best-and the Best is



BUSH

HEAT TRANSFER PRODUCTS

Bush Manufacturing Co.
WEST HARTFORD • CONNECTICUT

Circle No. 28 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

HERE'S THE MAN

to give you expert brazing service



He's the Handy & Harman field service engineer. You'll like him because he really knows his stuff. He was hand-picked and specially trained for the job. He is a friendly chap with a wide background of experience that covers both domestic and war time production. He loves to take off his coat and get his hands dirty — and he's an artist with a torch. Give him a brazing problem and he's a bulldog — he'll never let go until it's licked. And if it's too tough to lick on the spot, he's backed by the top-ranking and most experienced Research and Engineering staffs in the business — originators of the well known low-temperature silver brazing alloys EASY-FLO and SIL-FOS. He's ready and eager to give you the following services — without cost or obligation.

DEMONSTRATIONS — of silver alloy brazing in your own shop.
SURVEYS — to determine if, where and how silver alloy brazing can benefit you.
ENGINEERING AID — to assure correct joint design and most effective application.
SAMPLE BRAZING — of specific parts to determine the best way to braze them.
PRODUCTION AID — to help work out the procedure that will give you the brazing production you want at lowest cost.
EMPLOYEE TRAINING — either in H&H silver alloy brazing schools — or by a program set up in your own plant.
TECHNICAL BULLETINS — making available the technical facts and data on silver alloy brazing as developed in our Research Laboratory.
CALL OR WRITE — the nearest office listed below and say when you would like a field service man to call.

HERE'S THE BULLETIN to give you full facts

This new 28-page Bulletin 20 gives the whole remarkable EASY-FLO and SIL-FOS brazing story — including useful information on joint design and fast heating and production methods. It's a "must" for all who design or produce metal assemblies. Write for a copy today.





HANDY & HARMAN

12 FULTON STREET NEW YORK 14, N. Y.

Bridgeport, Conn. • Chicago, Ill. • Los Angeles, Cal.
 Providence, R. I. • Toronto, Canada

Agents in Principal Cities

No other Refrigeration Control gives you these

TWO BIG ADVANTAGES

When wired as
a 2-pole switch
in single phase
circuits...it al-
ways breaks the
"hot" line.

When wired as
a 1-pole switch
in multiple sys-
tems...it does
the work of
two controls.



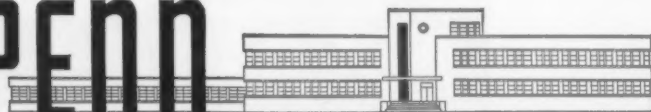
Yes... they're big advantages and they're yours with the PENN Series 270... the first and *only* load-carrying, 2-pole switch in the refrigeration field!

Here's a switch that will control two separate load circuits such as two single phase motors. It will control polyphase motors without line starters where single phasing protection is provided. It will control, at the same time, the condensing unit and the magnetic valve on single phase multiple systems or on polyphase systems when one pole is used as a pilot control.

You'll like the *versatility* of the Series 270. Get the facts... ask your wholesaler or write **Penn Electric Switch Co., Goshen, Indiana.** Export Division: 13 E. 40th St., New York 16, N. Y., U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ontario.

Series 270 and 272 Penn "single" temperature or low side pressure controls. Also (not shown) Series 271 and 273 Penn "dual" controls which combine in one unit a temperature or low side pressure mechanism with built-in high pressure safety cut-out.

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES
Circle No. 30 on Reader Service Card for more information

THE AVERAGE CITY LOT is too small to supply enough heat for a heat pump to warm the house that usually is built on the lot, George S. Smith, professor of electrical engineering at the University of Washington, told ASHVE members at their 57th annual meeting in Philadelphia. Prof. Smith, who studied ground grids or coils for the heat pump, said that "the ground grid is practicable only where larger lots are available, or where very special soil, moisture and subsurface conditions are found. Soil densities, conductivities, etc. should be carefully chosen since the soil around a newly installed grid may require years to attain its original density."

CURTAILMENT OF CONSUMER DURABLES production of over 30% and probably 50% by the end of 1951 was predicted by Ward R. Schafer, vice president and general manager of Coolerator, at that company's recent annual sales conference in Chicago. Substitutions in future production also will be necessary, Schafer said, to conserve on critical materials for the preparedness program. He predicted that replacement sales would increase greatly in 1951. The production picture for both refrigerators and freezers is good for the first half of the year, Schafer said.

A DRAMATIC APPROACH TO MODERNIZATION of a skyscraper and the problem of air conditioning older office buildings is being used in the 25-story Herald Square building in New York City. Chilled water risers for the air conditioning system are being run up inside stainless steel jackets on the exterior of the structure. Branch lines into corridors of each floor will be hidden behind new furred-in ceilings. Turbine-driven compressors and pumps will be housed in the building's basement and sub-basement. By incorporating the entire layout into the design treatment of the facade, an entirely different and strikingly modern appearance is given the building.

CORROSION OF STEEL AND IRON by circulating water can be almost completely prevented by addition of small amounts of tungsten and molybdenum compounds. The compounds, sodium tungstate, potassium tungstate, potassium molybdenate and sodium molybdenate, should be especially useful in the air conditioning and cold storage industries, where steel pipes are used extensively to circulate water or brine. Water circulating through a steel pipe can corrode four pounds a year per square yard of exposed metal. Brine is even more corrosive.

DURING THE TWENTY YEARS since the hermetically-sealed refrigerator motor was developed, many significant improvements have been made in its design, according to a recent report from Westinghouse Electric Corp. Weight has been reduced nearly 30 per cent; weight per horsepower has been reduced 45 per cent; physical size has been reduced 30 per cent. Despite all this its maximum torque has been improved by 22 percent and the efficiency has risen from 62 to 75 per cent. It costs nearly one-third less to make today's better motor, even with labor and materials most costlier now. Motor improvements, plus improvement in the refrigerator itself, have cut power consumption per given amount of refrigeration by about 60 per cent as compared with 20 years ago, it is estimated.

REFRIGERATION SAVES LIVES in severe shock cases, say Drs. Lyman W. Crossman and Frederick M. Allen, of the City Hospital of New York, writing in the Journal of the American Medical Association. They have found that cold reduces pain and swelling, preserves injured tissue, restrains infection until the patient is strong enough to undergo an operation, and serves as a shockless anesthetic in surgery. Several shock cases cited by the doctors would have proved fatal without the invaluable few hours or respite afforded by refrigeration. Drs. Crossman and Allen say that refrigeration keeps the tissues from deteriorating until the patient can have his resistance built up.



DOWNSTAIRS

SPECIAL PLENUM EXTENSIONS built on top of the two 10-ton packaged air conditioning units located on the ground floor of the French American Club, in Lawrence, Mass., and serving the bar and general club rooms of the establishment, lead to covered ducts which terminate in . . .

UPSTAIRS

SEPARATE PLENUM CHAMBERS on the second floor, where a separate dance floor is located. Dampers on the downstairs units allow conditioned air to be directed upstairs when load conditions there are heavy. A separate 10-ton unit on the second floor handles that area when occupancy load is light.



Packaged Units Solve

The Case of the Crowded Clubrooms

MANUFACTURERS of packaged air conditioning units are constantly discovering new ways to circumvent local problems by special adaptations of the packaged units. A recent installation in the French American Club, in Lawrence, Mass., for instance, solved the problem of how to provide sufficient air conditioning for two separate floors with highly variable heat loads.

The problem at the French American Club lay in the fact that an upstairs dance floor, with a capacity of over 400, was often partly or wholly empty, while the ground floor, with its bar, pool tables and card tables, could be expected to hold anywhere

from 25 to 300 people, depending upon the occasion.

As finally installed, the air conditioning system at the club is simple, economical, and completely adequate. Packaged units were chosen to do the job, and so arranged that any variation of heat load could be easily and quickly accommodated. On the ground floor, two 10-ton Typhoon units were installed, and one more was located on the second floor. A special plenum extension was built on top of the two downstairs units, leading up to the second floor.

These plenum extensions lead to covered ducts on the second floor, which terminate in separate plenum

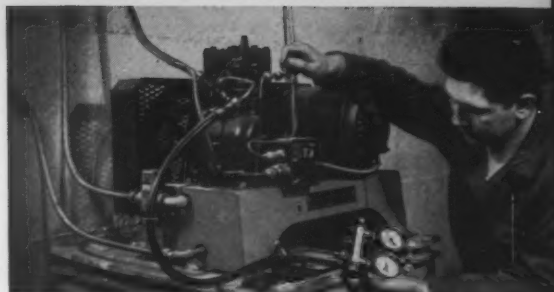
chambers. A simple damper above the plenum of the unit downstairs prevents cool air from rising to the floor above except when needed. When more cooling is required in the upstairs dance hall, the damper is turned by a lever so that it blocks off the discharge grille of the downstairs unit, sending all the cool air upstairs.

Thus a flick of the wrist will send 10 tons of refrigeration out into either floor, from either unit or both of them. But 20 tons will not suffice for the dance floor when upwards of 400 people are moving around or dancing. So another 10-ton unit was

Continued on page 52



AN ICE CREAM MAKER has retained the good will of his 170 outlets by changing to Suniso Refrigeration Oils to keep their compressors free of trouble. In the past eight years, not one of the units has ever required major repairs.



A REFRIGERATION EQUIPMENT DISTRIBUTOR, servicing retail dairy outlets, has reduced costly calls—frequently involving overhauls—simply by switching to a Suniso Refrigeration Oil. The old bugaboos of sludge and gum have vanished.



A DAIRY, handicapped by poor refrigeration for years because of constant clogging of compressor valves, turned to the exclusive use of a "Job Proved" Suniso Refrigeration Oil. Since the change was made, all valve trouble has completely disappeared.



A REFRIGERATION EQUIPMENT MANUFACTURER, after trying many competitive oils with only partial success, finally stopped wax separation at low temperatures by consistently using a Suniso Refrigeration Oil.

HOW 4 BUSINESSES HAVE BENEFITED FROM SUNISO REFRIGERATION OILS

By switching to Suniso Refrigeration Oils, each of these businesses has increased its efficiency and effected substantial savings. The results, condensed into a few words here (full information on request), are typical, not unusual. More and more manufacturers

and service men are turning to Suniso "Job Proved" Refrigeration Oils to protect production, lower costs, assure customer good will. The services of a Sun representative are yours for the asking. Just call the Sun Office nearest to you or write to Department RI-3.

SUNISO REFRIGERATION OILS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL





Temperature and humidity are equally important in holding this banana ripening room to the proper conditions. Just the right amount of ventilation also is required to carry off some of the gases emitted by the fruit during the ripening process.

Bananas Need Refrigeration, Too

TEMPERATURE and humidity both play a vital part in the shipping and ripening of bananas. Without the close control of both of these factors which is made possible by the use of modern refrigeration equipment it is impossible to handle this highly perishable tropical fruit without considerable spoilage and consequent financial loss.

Refrigeration during transportation is required to keep the fruit in proper condition until it is delivered to the point where it is to be ripened. Ripening in transit must be retarded to prevent the fruit from becoming soft and thus easily bruised.

Temperature control in the ripen-

ing room is necessary to insure the most desirable qualities in the ripened product and at times to hold the ripe fruit for short intervals to permit supplying the retail outlets in accordance with day to day demand.

Some fruits benefit by refrigeration but can be injured by cold, and the banana is one of these. If the temperature is allowed to drop below the 50 F mark for any length of time the fruit is apt to have a peel injury known as "chilling". Green fruit which has been chilled tends to ripen with a dull gray or copper tinge, depending on the severity of the injury. Ripe fruit will turn dark prematurely, especially when handled.

Bananas require an atmosphere of high humidity in all stages of transportation and ripening, which is natural as they grow in a humid climate. Lack of humidity causes drying out of green bananas, resulting in loss of salable weight and, even more important, a peel injury which slows down and interferes with normal ripening. Relative humidities of 90-95% or higher are used. When the fruit begins to show color, humidity is reduced to about 85% to check growth of molds, stalk rot, etc. and to make sure the fruit is dry when packed.

Ventilation requirements of bananas are rather acute as this fruit carries on respiration in storage, using

up oxygen and giving off carbon dioxide gas. The respiration rate is rather high, especially during the ripening period, which makes it inadvisable to keep bananas in hermetically sealed containers.

Excessive ventilation is not good either as bananas give off minute quantities of ethylene and probably other gases, which are necessary for even ripening. Ventilation during early stages of ripening will remove the gases and result in uneven ripening.

A refrigeration system which satisfies all of these exacting requirements has been designed and installed for Leslie Lynn of Growers Marketing Co., Los Angeles, by Bob Noll's Commercial Refrigeration Co.

Lynn's new warehouse boasts five ripening rooms, each with a capacity of two carloads. Each room is insulated with cork and all have concrete floors.

Room No. 5 is used mostly to hold ripened bananas and for other fruit, such as apples, when they are plentiful. In order to maintain a lower temperature in this room when desired, with a minimum increase in heat leakage, a layer of insulating cork was laid between layers of the concrete floor.

The cooling system consists of water cooled condensing units and blower type evaporators using Freon-12 refrigerant. Two 10-hp. York compressors are cross connected, operating on a single shell and tube water cooled condenser. An atmospheric type water tower on the roof handles the condenser water.

Pressure gauges for suction and head pressures are mounted on a wall panel in front of the compressors for quick and easy reading. In fact the entire system is designed and installed to facilitate any necessary service and repair, as \$20,000 worth of bananas is usually on hand and uninterrupted operation of the system is of the utmost importance. The design of the system is such that any one part of it can be shut down for repair without affecting operation of the rest of the system.

There are six York F2700 blower-type evaporators in the five rooms. Each room has one ceiling mounted unit at the entrance end, except room No. 5 which has one at each end. This added capacity makes it possible for the room to be used for storage of fruit, other than bananas, requiring a

holding temperature as low as 35 F.

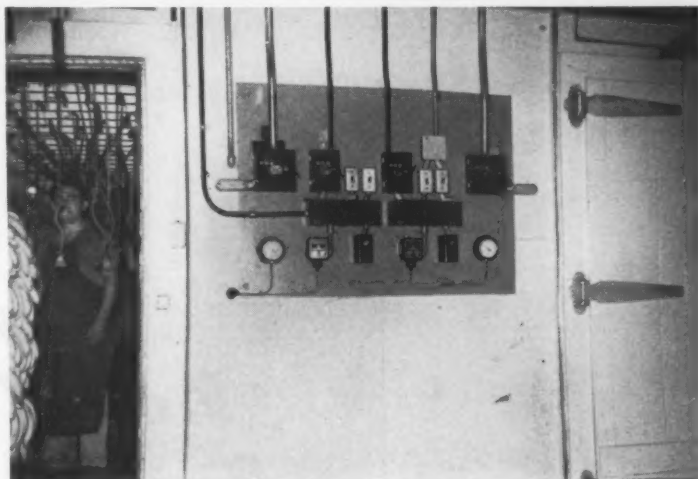
Freon 12 is piped to each evaporator through a take-off line from the main piping. Each evaporator has a shut-off valve on the suction line and one on the liquid line. This makes it possible to service or repair each unit without cutting off refrigeration in any other of the rooms.

Refrigerant flow to the evaporators is controlled by a thermostatic expansion valve and an electric solenoid valve. The thermostat opens the solenoid valve which allows the liquid to enter the evaporator tubes, and the expansion valve automatically feeds

the proper amount of Freon to the unit.

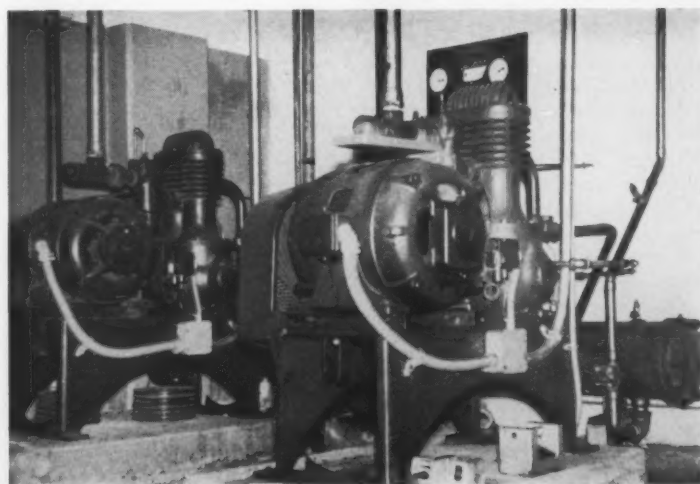
Humidity is controlled by a manually operated overhead spray system which is turned off or on to maintain desired conditions as indicated by the room humidistat reading. As the banana stalks are hung high and low to take advantage of all space, the blower type system insures an even distribution of temperature and humidity.

Temperature controls for each room are mounted on panels just outside of each room. Minneapolis-Honeywell controls are used throughout the installation.



Controls for each ripening room are mounted on a panel just outside each room's door so that they can be read quickly and easily without entering the room itself.

Refrigeration for the five ripening rooms is provided by these two 10-hp water cooled York compressors, which are cross-connected and operate on a single shell and tube water cooled condenser.



Make Your Service Records SERVE

Your service records can do many things for you besides keep track of whose equipment you have repaired. Do yours . . .

Promote new equipment sales?

Help you appraise trade-ins "sight unseen"?

Stimulate customer goodwill?

Pare down service department overhead?

If not, then you can learn a profitable lesson from this Denver contracting firm which makes its service cards yield "bonus" results

DETAILED service records, conscientiously maintained, can be a vital asset to any refrigeration firm by promoting new equipment sales, assuring closer control of trade-ins, and stimulating customer goodwill, as well as building a bigger volume of service work.

Every responsible refrigeration firm keeps some sort of service records. Many of them keep reasonably complete records. Comparatively few of them, however, capitalize on this information by using it for purposes other than service.

Typical of the intelligent—and profitable—use which can be made of complete and up-to-date service records is the example of Snodgrass & Smith, Frigidaire dealer in Denver, Colo.

This firm maintains a permanent record card for every piece of equipment installed or serviced. Each of these 6x9 cards actually is a capsule history of that particular equipment, including every single fact which affects that installation. The firm's entire service program is geared to

keep the information on these cards as up-to-date as possible.

With this system in operation since 1930, Snodgrass & Smith now has more than 15,000 of these cards neatly filed in eight fireproof steel drawers. Each of these cards is handled at least twice a year, and some of them as many as 10 times a year.

Here are a few of the ways in which the firm makes profitable use of this elaborate service record system.

Service Cards Provide Leads for Equipment Sales

"First," explains partner K. M. Snodgrass, "we utilize the cards to determine when a piece of refrigeration equipment is undergoing too many repair calls and is in need of replacement. This furnishes valuable information for the sales department, as the salesmen can definitely tell from these records just which ones of our service customers are in the market for new equipment.

"Also, when we undertake the sale of any new product a check of the

card file will quickly indicate just how much of a market we may have for it. For example, if the new piece of equipment is an open self-service type of case for dairies, creameries, supermarkets, etc. we can check our card files to locate those customers which logically could make most profitable use of such a case, and then direct our salesmen's efforts along the most effective channels.

"When we receive word of a more efficient, less expensive compressor, for instance, we can pull from our card file the names of those customers who have experienced considerable compressor difficulty in the past, and thus pinpoint a ready market for the new line of units.

"Still another direct and tangible asset of the card file system is the ability to intelligently quote trade-in allowances over the telephone, thus saving the time and expense of sending out an estimator to examine the used equipment offered. A quick check of our file card on any piece of equipment we have handled will give a clear, accurate picture of its condi-

tion, the number of service calls made on it, the amount of future use which might be expected from it, and even such details as its exterior appearance and the condition of its hardware.

"With this information at our fingertips we always are able to quote a trade-in allowance on any piece of equipment we have serviced without feeling that we are undertaking any gamble whatever.

Quick Trade-In Appraisals By Phone Made Possible

"Many of our customers are surprised at the speed and the lack of hesitance with which we quote these trade-in figures. The answer, of course, lies in the file cards which combine all pertinent service information together with the owner's remarks about the equipment and the serviceman's personal observations to present a concise and accurate appraisal of the equipment's current condition and its consequent resale value."

In addition to these "extra curricular" benefits, the cards also help pare down overhead costs of the firm's service operation by enabling the service manager to plot his mechanics' work more advantageously.

Customer Lists Kept Continually Up-To-Date

A quick check of a customer's card, for instance, may show that the piece of equipment requiring service has consistently given trouble at one point. This makes it easy for the service manager to anticipate the present difficulty and send out the correct parts for that repair job.

Actually no serviceman leaves on a call until he has closely studied the card record of that particular piece of equipment on which he is going to work.

Snodgrass realizes that no record system of this type can be utilized to its fullest advantage unless it is kept consistently up-to-date. So, in addition to frequent periodic references for such purposes as those already described, the entire file is systematically checked once a year. At this time every card is scrutinized to see if the equipment listed is still in use, if there has been any change in ownership or location, or if any other corrections or additions need to be made.



INTERIOR of El Aguila Bakery, where installation of air conditioning equipment adds to customer and employee comfort, keeps cakes in better condition, and has increased the bakery's business substantially.

An Old Bakery Goes Modern

A REFRESHING modern touch—air conditioning—has been added to El Aguila Bakery, one of the oldest and most picturesque institutions in Laredo, Tex.

El Aguila is a combined cafeteria and retail bakery, the front part of which is divided into two sections. One is a coffee shop with tables and display cases for the eating-in trade, and the other handles the sale of take-home merchandise, consisting of Mexican pastry, bread and wedding cakes.

With summer heat in Laredo running to 100° F and above, the management of the bakery, which also had to contend with heat from two big gas-fired baking ovens (located under a shed-like structure in the rear of the building behind the mixing and decorating room), faced a real problem of providing cool comfort for its customers.

An early installation used two evaporative coolers placed on the roof of the rear shed and connected by ducts through the mixing and decorating room to the main store area. This proved inadequate for
Continued on page 86



AIR CONDITIONING UNIT serving the bakery is located in a corner of the mixing and decorating room, conserving space in the main store area. The unit has a built-in evaporative condenser for conservation of water.

THIS JOB IS WORTH \$10,000 A YEAR

PROBLEM:

Finding room for 27 "displaced tenants" in an office building already operating at 100% capacity.

SOLUTION:

Removal of obsolete boilers in the building's basement and conditioning of the resulting dead air space to render it usable for maintenance workshops and building employee facilities formerly located in "high priced" space on upper floors.

RESULT:

Net increase of 3000 sq. ft. of rentable office space with a resultant gain of approximately \$10,000 per year in building revenue.

POSTWAR reconversion constituted quite a problem for the Second National Building in Akron, Ohio. An intelligent application of packaged air conditioning equipment helped supply the answer.

One of the community's largest office buildings, the Second National had a high occupancy of professional men. During the last war some 28 doctors and dentists with offices in the building left for service with the armed forces. The space which they relinquished was promptly rented to other tenants.

With the war's end, 27 of those medical men returned to resume their private practice and said in effect to the building's management, "Here I am. Where are you going to put me?"

The management was faced with a dilemma. These men prior to their period of military service had been established and valued tenants. They needed office space, and needed it urgently. Yet, flushed by the immediate postwar business boom, the building was operating at 100% occupancy. There simply was no place to put the returnees. What to do?

E. E. Walker, manager of the building for many years, wrestled with this problem. There was, he decided, only one possible solution. More rental office space had to be created.

He could do this, he calculated, by evicting some of the building's maintenance shops from their second and third floor locations and carving these work areas up into suites of professional offices.

So far, so good! But then where was he going to relocate the carpenter shop, the paint shop, the electrical shop, the plumbing shop, and all of those other maintenance departments which were so essential to the building's upkeep?

A careful survey of every cubic inch in the building soon revealed that there was simply no place to put them—until building manager Walker hit upon the possibility of tearing out a huge bank of unused boilers which comprised part of the building's old heating plant.

These boilers were located in a basement area which had a ceiling high enough so that the area could be split into two distinct levels—a basement and a sub-basement—to provide more than enough room for all of the maintenance shops and equipment. It was promptly decided to convert this "bonus" space into a rest and recreation area for building employees, complete with locker rooms and toilet facilities for both men and women.

There was only one catch to this idea. The area formerly occupied by the boilers was just dead air space, with no provision for even the most basic form of ventila-

tion. That's when building manager Walker called upon Orton Heating Co. in nearby Barberton, Ohio.

William L. Orton, president of the air conditioning firm bearing his name, and J. B. Vojtko, his engineer, carefully analyzed the situation.

They realized that the first requirement would be to introduce a considerable volume of fresh air into this space so as to make it usable for human occupancy. But they also knew that during the summer months

the temperature in this basement area frequently would run as high as 90 F, and they realized that no employees could work effectively or efficiently under such conditions.

So what started out as a straight ventilating job actually ended up as a full-fledged air conditioning installation.

To provide the required amount of fresh air, a fan room was erected in which was installed a 20-inch blower with a capacity of 4000 cfm. The

THEIR PROBLEMS = YOUR PROFITS

Providing a satisfactory solution to your customers' problems is the surest way of making your business grow. Here's one concrete example of how it can be done.



These two 5-ton packaged air conditioners were installed in conjunction with a 4000 cfm ventilating system to provide cooled and conditioned air for the converted basement area. The unit above is set up for free air delivery to the workshop area. The one at the right is provided with ductwork leading to rest areas.

These two "packages" turned the trick



Careful planning made the most of waste space



William L. Orton (right), president, and J. B. Vojtko, engineer, of Orton Heating Co. closely scrutinize plans for converting the dead air space created by removal of the building's obsolete boilers (shown at left before dismantling) into usable workshops and rest areas for the building's maintenance staff.

duct system leading from this fan room was split, with part of it going to the sub-basement and part to the basement proper.

For tempering the incoming air in winter, the fresh air intake was equipped with a steam coil, modulating steam valve, and thermostatic control. The fresh air duct also was equipped with filters and a bird screen vent. Duct lines to the conditioned areas were provided with manually operated controlling dampers.

Adequate cooling was achieved by installing two 5-ton Chrysler Airtemp packaged units, each equipped with thermostatic control.

One of these units was located in the main basement workshop area, set up for free air delivery with no duct attached. The other unit was placed in the sub-basement rest area and provided with ductwork leading to supply outlets in both men's and women's toilet and locker rooms, as well as in the general rest area.

Each of the toilet rooms has a gravity exhaust to pull fresh air through the area.

What have been the results of this installation? Far more than anticipated, Walker will assure you.

First, and most importantly, utilization of the basement made possible by the air conditioning installation freed some 3000 sq. ft. of rentable area on the building's upper floors, which not only accommodated the building's pre-war tenants but also resulted in a gain of approximately \$10,000 per year in rental revenue. This alone would have made the installation more than worthwhile, Walker declares.

More than this, however, the build-

ing employees have found their new air conditioned basement quarters much more comfortable than their previous location, and consequently they work much more efficiently with fewer excuses for time out. Their appreciation of the more comfortable conditions for both work and rest periods has boosted their morale immeasurably and has gone a long way toward welding them into a more satisfied and more productive work force.

Removal of the work rooms to the basement also improved the general rental conditions of the building's upper floors by removing the inevitable odors and dust which emanate from such work areas as paint and carpentry shops.

The air conditioning contractor, too, received multiple benefits from the job, for in addition to the profit derived from this installation itself, he paved the way for a pair of future sales. Two tenants of the building, one dentist and one doctor, were so favorably impressed by this installation that when they remodelled their own suites they decided to have air conditioning installed.

And who got the job? Why Orton, of course!



about

PEOPLE

Thomas S. Pendergast has been named director of sales for the Universal Cooler Div. of Tecumseh Products Co., Marion, Ohio, returning to an organization with which he had previously been associated for some 20 years.



Pendergast's connection with the refrigeration field dates back to 1922, when he started with Kold King Mfg. Co. He became chief engineer of General Necessities Corp. when this company bought Kold King, and when Universal Cooler bought General Necessities in 1931, he was named sales manager. By 1943 he had become vice president and works manager. He left Universal Cooler in 1948 to become sales manager of the refrigeration division of Hupp Corp. Later that year he joined Baker Refrigeration Corp. as general manager, later becoming president, a position he held until last year.

Thomas J. Manning has been appointed to the sales staff of Kramer



Trenton Co. to cover the Kansas City, Mo., area. He will cover the state of Kansas and western Missouri for Kramer. A navy aviation engineering veteran, Manning formerly

was in the application engineering section of General Electric's air conditioning department, and most recently has been a sales engineer for G-E in the Kansas City district office.

W. F. R. Karsten has been appointed supervisor of commercial engineers at the General Electric air

conditioning department headquarters in Bloomfield, N. J. He has been associated with this department since its inception at Schenectady in 1932. He has served the department as district commercial engineer in the New York and New England districts, becoming assistant to division sales manager in 1940 and division sales manager in 1943. During the war he was responsible for sales of air conditioning and refrigeration equipment to the Navy and Maritime Commission and served on various WPB industry advisory committees.

Emanuel Feinberg has been appointed as sales representative for



Dean Products, Inc., of Brooklyn, to cover the eastern Michigan and western Ohio territory, according to announcement by Walter Raskin, president of the company. Feinberg for several years has been associated with the field of air conditioning and heat transfer products. He is now also a representative for Acme Industries, Inc., Jackson, Mich., and U. S. Air Conditioning Co., of Minneapolis.

Murray Weissman has been appointed representative for Reco Products



Div. of Refrigeration Engineering Corp., Philadelphia, in the states of Ohio, Indiana, Michigan and western Pennsylvania. Reco is embarking on a campaign to provide personal consultant service to dairy and food concerns in this territory on its various lines of equipment. Weissman, a specialist in novelty manu-

facture, refrigeration and ice cream production, formerly was with National Kream Co. and Ice Cream Novelties, Inc. His headquarters will be in Cleveland.

F. J. Van Poppelen, formerly manager of manufacturing of the General Electric Co.'s conditioning department with headquarters at Bloomfield, N. J., has been named assistant general manager of the De-



F. J. Van Poppelen



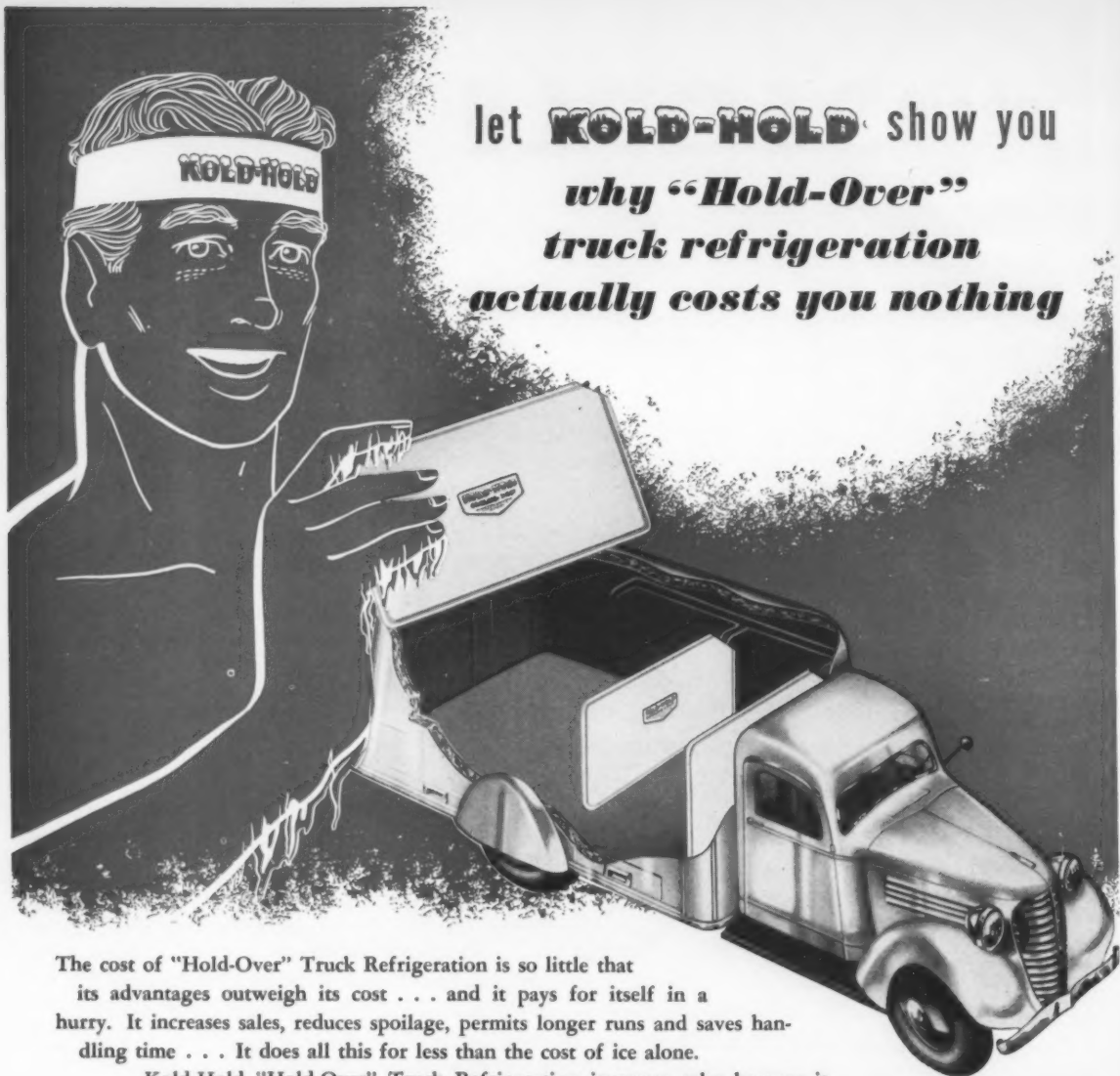
E. D. Kemble

partment. His appointment was made upon recommendation of Harold F. Smiddy, G-E vice president and general manager of the department. Van Poppelen joined General Electric in 1949, working in Schenectady, in the office of the vice president in charge of manufacturing policy. He was appointed to his previously held position in the air conditioning department in 1949. Prior to joining G-E, Van Poppelen was vice president of the Hupp Corp., Cleveland. **E. D. Kemble** was named to succeed Van Poppelen as manager of manufacturing of the air conditioning department. Prior to his new appointment Kemble was manager of the company's automatic heating equipment plant at Bloomfield. He joined G-E in 1949 in that capacity.

David E. Feinberg has been appointed defense contract co-ordinator of United States Air Conditioning Corp. in addition to his duties as manager of the refrigeration division. Burton S. Fox has been named assistant to Feinberg in his newly created post.

William S. Shipley, board chairman of York Corp. and an outstanding figure in the development of the refrigeration and air conditioning industry, died suddenly Jan. 13 at his Bayport, L. I., home. He was 71

Continued on page 80



let **KOLD-HOLD** show you
why "Hold-Over"
truck refrigeration
actually costs you nothing

The cost of "Hold-Over" Truck Refrigeration is so little that its advantages outweigh its cost . . . and it pays for itself in a hurry. It increases sales, reduces spoilage, permits longer runs and saves handling time . . . It does all this for less than the cost of ice alone.

Kold-Hold "Hold-Over" Truck Refrigeration increases sales because it keeps your truck contents cold, clean, dry and odorless, and improves their sales appeal. It reduces spoilage because the temperature of the truck can be predetermined and maintained throughout the longest day's hauls. And when the truck returns from its trip, undelivered loads can be left in the truck to save overtime handling.

"Hold-Over" Truck Plates reduce the cost of marketing perishable foods. Operating either off the existing plant cooling system or with condensing unit mounted on truck, they protect your products in transit . . . for less than 10 cents a day!

So why pay a premium for inadequate refrigeration when you can refrigerate your trucks at a profit, using "Hold-Over" Truck Plates. Write for full details today.

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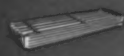


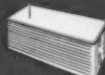
PLATE BANKS



PLATE STANDS



PREFABRICATED LINERS



SERPENTINE EVAPORATORS



"HOLD-OVER" PLATES

KOLD-HOLD MANUFACTURING COMPANY, 503 E. Hazel St., Lansing 4, Michigan

Circle No. 32 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

Is Your Service Truck an Asset?

THE dealer who is able to take his service shop right to the customer's door can save both time for his customers and money for himself.

That's the idea back of the "traveling service shop" that Gus Kehe, owner of Imperial Refrigeration Sales & Service, Buffalo, has developed for his company's use.

By converting a panel-type truck of the type ordinarily used for delivery of such things as dairy products and bakery goods, Kehe has equipped his company with a shop-on-wheels that can be used both for answering emergency service calls to food stores and other commercial refrigeration equipment users, as well as for expediting actual installation of equipment sold to establishments in this field.

Kehe himself laid out the truck's interior arrangement, planning it so that the greatest possible amount of replacement parts and supplies could be carried right to the job site, where they would be ready for immediate use. All shelving and parts bins are of steel, and the sections along one side of the truck, where the smaller parts are stored, are movable, so that their dimensions can be changed to fit any particular requirement.

All small parts are stored in one section, and are grouped so that they can be reached with the least amount of difficulty. Carried in this section are such items as expansion valves, controls of all types, driers, strainers, thermostats, switches, etc. These are all grouped by type and make, to

make selection of the exact replacement part quicker and easier.

Smaller parts, like flare nuts and certain types of fittings, are carried in built-in steel drawers. These are also separated by size, in the interest of quick selection and use.

The other side of the truck is arranged for a dual purpose—to allow storage of larger parts, the kind that don't fit readily into bins, and for working space when making repairs at the job site.

At the top of this side of the truck is a complete "board" of the most commonly required sizes of V-belts. Each size of belt hangs on its own separate "arm", so that it is easy to select the proper belt quickly.

A steel work bench runs along

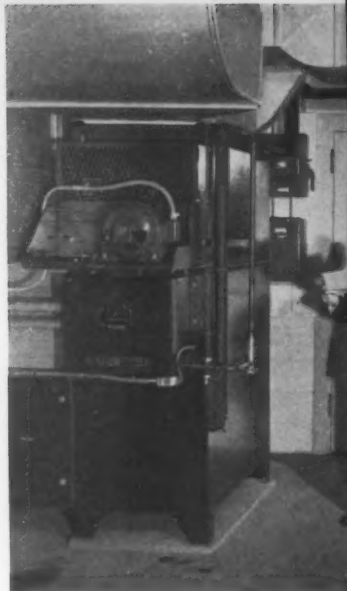
Continued on page 52

**Ingenious shop-on-wheels
saves time and money
for service contractor
and his customers**





HEAT SOURCE for the winter air conditioning system of radio station WFMJ's transmitter building is supplied by the AM (left) and FM banks of transmitters. Situated in the center of the transmitter room is the control console.



CONDITIONING UNIT (left) and cooling for the building in the winter season. Dieringer, chief engineer of the

FREE HEAT for

An ingeniously designed central station system utilizes waste heat from banks of AM and FM tubes to provide economical winter air conditioning for the transmitter building of Youngstown, Ohio's radio station WFMJ

A CENTRAL station air conditioning system is heating the transmitter building of Youngstown, Ohio's radio station WFMJ for free! During winter months this system simply circulates through the building the heat generated by the station's two banks of transmitters, instead of providing a heat supply of its own.

The 7½-ton compressor and conditioning unit were required for normal summer air conditioning, anyway.

Some form of summer cooling is virtually a "must" for transmitter stations, which normally are located in open country and thus exposed to the full glare of the sun all day long. The addition of a few hundred dollars worth of controls and duct work made it possible to heat the building for next to nothing.

Thus, for a small additional initial investment, this radio station has made its summer air conditioning

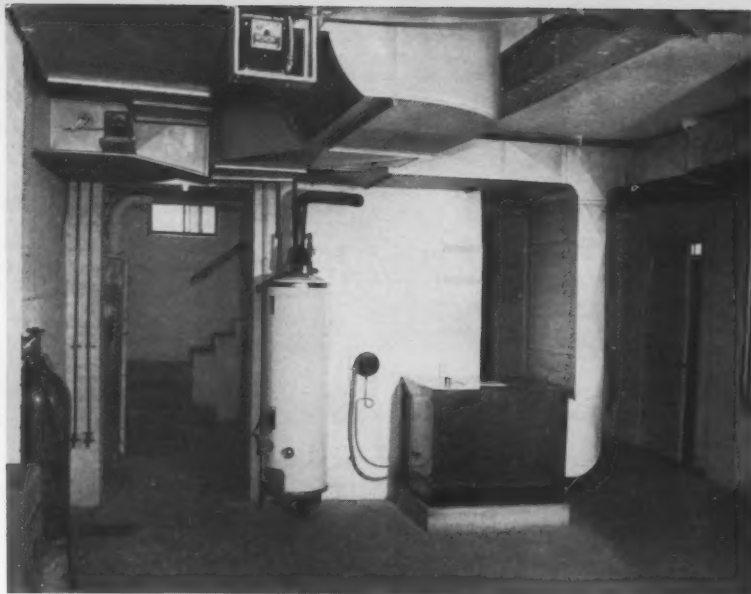
system pay a regular dividend which practically repays the cost of the extra duct work and controls every winter season. All it took was a little ingenuity in devising a system which utilized the transmitter heat which in most transmitter stations is wasted by exhausting it into the outside atmosphere.

The WFMJ installation was made by Youngstown's Store Engineering Co., distributor of General Electric air conditioning equipment, and this company's engineers are quick to point out that although this type of installation presents its full share of difficulties, since special care must be exercised in planning the control set-up, it is entirely practical and offers contractors and dealers one more profitable business potential.

The heating, ventilating and cool-



1/2-ton compressor which provides heat for the building is examined by Frank who helped design the system.



BLOWER SYSTEM for circulating heat from the FM transmitter throughout the building is located in the basement. Intake duct is at left and supply duct at right. AM blowers are mounted in the transmitter bank.

air conditioning

ing system of the station is designed to use all or any part of the waste heat generated by the radio tubes and other parts of the two radio transmitters (AM and FM) to heat the building in winter. This system is completely automatic and is controlled by three thermostats.

One thermostat controls the gas valve feeding a gas fired steam boiler. Another thermostat is used to turn the cooling compressor on and off and the third thermostat is associated with the modulating dampers.

The damper thermostat is electrically connected to the starting switches of both transmitters, which places this thermostat in control of the damper motors when either or both transmitters are turned on. When both transmitters are turned off, the damper thermostat no longer

controls the dampers and the dampers close.

The modulating dampers are so arranged that some or all of the waste transmitter heat is exhausted into the regular building ventilating system when the room temperature falls below 76 F.

When no waste heat is required to heat the building, the modulating dampers discharge the transmitter air directly to the outside of the building. Also under this condition of operation all of the intake air is taken from the outside of the building.

Air cooled by the compressor system is used to condition the interior of the building only. No mechanically cooled air is used to cool the transmitter.

A differential of two or three de-

grees is maintained in the settings of the thermostats in order to operate the boiler, the dampers and the compressor in the proper sequence. The settings used are 74 F for the boiler thermostat, 79 F for the compressor thermostat and 76 F for the modulating damper thermostat.

Blowers are installed as a part of each transmitter to force intake air through the radio tube radiating fins. The AM transmitter has its blowers mounted inside the cubicles. The FM transmitter blower is located externally in the basement.

In the exhaust ducts above each transmitter a Mercoid switch is installed which is set a few degrees above the normal temperature of the exhaust air. If for any reason the temperature of this air rises above

Continued on page 73

"STEADY VOLUME..LOTS OF REPEAT BUSINESS keeps us happy with our SUPER-COLD FRANCHISE"



Nat Silverstone



Everett H. Stahl

These are the words of Nat Silverstone and Everett H. Stahl of the Silver-Stahl Corp., Super-Cold distributors for Northern California.

They enjoy steady volume at Silver-Stahl's—a volume which stems from alert sales direction and highly saleable equipment.

Corporation principals are personally interested in the success of every salesman. Ranging from one end of the territory to the other, Nat Silverstone constantly injects enthusiasm into his men by demonstrating the superior features of Super-Cold refrigeration, and how these qualities make money for the purchaser. He's always ready to talk about the advantages of Super-Cold, showing how Super-Cold refrigerated cases cut trimming and spoilage losses, provide better display, and permit a wider variety of merchandise to attract new customers.

Teammate Everett Stahl backs the sales organization with deft business management and able follow-through to assure prompt deliveries. His congenial personality has made many friends for Silver-Stahl and Super-Cold. Both men feel that "customer satisfaction and repeat business of Super-Cold equipment have been outstanding."

Silver-Stahl's rise since 1947 to one of the largest volume Super-Cold distributors demonstrates the wide possibilities for profit with a Super-Cold franchise.



Recent installation of Super-Cold's SUPER MERCHANDISER, open-well display case.



Super-Cold service meat cases installed in a San Francisco super-market.



New SUPER SALES MASTER, rear-loading, self-service meat and delicatessen cases.



Silver-Stahl showroom, 298 7th St., San Francisco, Super-Cold's Northern California distributor.



Reconditioning plant and showroom of Silver-Stahl Corp., Oakland, Calif.



Sales force and display office of Silver-Stahl Corp., San Jose, Calif.

THE SUPER-COLD CORPORATION

A Leader in Refrigeration for over 25 Years



SUPER-COLD

Refrigeration

COMPLETE FOOD STORE REFRIGERATION UNDER ONE GREAT NAME

The Super-Cold Corporation
1020 E. 59th St., Los Angeles 54, Calif.

Gentlemen:

Please send me details on available Super-Cold franchises.

Name _____

Address _____

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NEWS

OF THE INDUSTRY

'51 INDUSTRY SHOW MAY BE BIGGEST

L. C. McKesson, chairman of the Show Committee of Refrigeration Equipment Manufacturers Association and vice president in charge of sales of Ansul Chemical Co., has announced the sale of 57 per cent of available space for the 7th All-Industry Refrigeration and Air Conditioning Exposition to be held at Navy Pier, Chicago, on Nov. 5-8, 1951.

"This can only mean one thing," said McKesson. "It means that there is no great doubt about the holding of the Show, and it also means that this will be the largest show of its kind ever held and will hang up a record for the largest attendance of any show ever held in the refrigeration industry."

Ninety-four members of REMA had been assigned space up to and including January 8.

Space will be available to any company manufacturing a product or offering a service identified with the refrigeration and air conditioning industry on March 1, 1951.

Full information, floor plan, rates, etc., can be secured by writing direct to George E. Mills, show director, 7th All-Industry Refrigeration and Air Conditioning Exposition, 1346 Connecticut Ave., N. W., Washington 6, D. C.

COOLING TOWER INSTITUTE FORMED

Recent formation of the Cooling Tower Institute with seven of the country's largest manufacturers of industrial water cooling equipment as charter members has been announced by Raymond C. Kelly of J. F. Pritchard & Co., Kansas City, president of the group.

Other officers are J. R.

SHOW PLANS GET UNDER WAY



Here are members of the REMA Show Committee at work assigning space for the 7th All-Industry Refrigeration and Air Conditioning Exposition, scheduled for next November. Left to right are L. C. McKesson, Ansul Chemical Co., chairman; George E. Mills, REMA show director; George R. Allen, Superior Valve & Fittings Co.; and K. B. Thorndike, Detroit Lubricator Co.

Fluor, Fluor Corp., Los Angeles, first vice president; J. A. Brown, Foster-Wheeler Corp., New York City, second vice president; and L. T. Mart, Marley Co., Inc., Kansas City, secretary-treasurer. Directors are N. B. LauBach, Hudson Engineering Corp., Houston; P. R. Hoffmann, Lillie-Hoffmann Cooling Towers, Inc., St. Louis; and H. R. Baker, Jr., C. H. Wheeler Mfg. Co., Philadelphia.

Kelly said that the CTI eventually hopes to encompass the entire field of both evaporative water cooling and the newly developed air-cooled heat exchangers in its membership.

SERVEL REVISES POLICY ON PARTS

A revised standard warranty policy providing more liberal terms for the handling of condensing unit parts exchange transactions has been announced by Servel's electric refrigeration division.

The new policy, effective

Jan. 15, now permits a dealer or service engineer to obtain a replacement for any defective condensing unit or compressor part without a cash deposit, provided the part is properly covered under the terms of the warranty, according to George S. Eager, division service manager.

Previously, a deposit was required pending factory approval of the exchange transaction. Under the new policy, Servel's authorized parts suppliers will handle all such warranty transactions directly with the dealer or service firm, free of cost.

A further change in the warranty policy covers payment by the factory of all shipping charges on exchange parts between the factory and Servel authorized parts supply points.

Heretofore, the customer paid factory transportation costs on defective parts replacements obtained through the Servel parts supply depots.

CARRIER HALTS SALE OF FREEZERS TO ITS DEALERS

Carrier Corp. has announced that shortages of critical materials have resulted in a decision to discontinue the sale of food freezers to its distributors and dealers, and that these materials will be utilized to the best possible advantage in the production of air conditioning equipment.

Officials reported that Carrier would continue to manufacture food freezers for limited distribution outside the dealer organization. They added that this change should permit the manufacture of more air conditioning equipment for sale to dealers than would otherwise be possible.

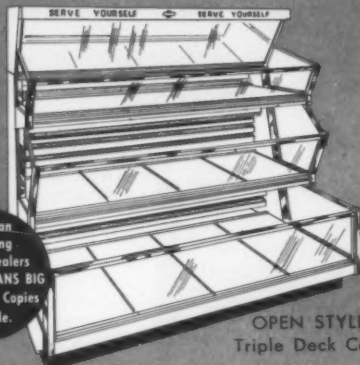
Carrier's distributors and dealers have been advised of this decision and that it is anticipated that the materials situation will permit the resumption of food freezer sales through dealer outlets at some future time.

CONTROL FIRM TO BUILD IN MIDWEST

General Controls Co., Glendale, Calif., control manufacturer, has announced plans to build a new factory and warehouse in Skokie, Ill., where the company has purchased a 4 1/2 acre site on McCormick Blvd.

Plans are now out for bid, according to W. A. Ray, president, and construction is expected to begin early this year. Establishment of a midwestern factory and warehouse will permit better service to customers in the midwest and east, Ray declared. When the project is completed, General Controls will have factories in California and Illinois, and warehouses in New York, Chicago, and Los Angeles.

Serving America's Finest Food Stores!



There's an interesting story for dealers in "Bally MEANS BIG BUSINESS". Copies available.

OPEN STYLE
Triple Deck Case

...ONE OF 62 DIFFERENT
BALLY MODELS and SIZES

Bally

REFRIGERATED DISPLAY CASES

Bally Case and Cooler Co., Bally, Pa.

SEES BIG MARKET FOR ROOM COOLER

Popularity of room air conditioners has developed so rapidly during the last two years that manufacturers could not possibly meet the demand in 1951 even if all necessary materials were easily available, Salvatore Giordano, president of Fedders-Quigan Corp., said at a recent meeting of distribution.

Predicting a total output this year of about 200,000 units which is approximately the same number of room air conditioners as were manufactured by the entire industry in 1950, he indicated that there is an immediate market for almost 600,000 units.

"If there were no restrictions on materials, I doubt if the combined industry has the required precision facilities, to build more than 400,000 room air conditioners within the next 12 months," he said.

He explained that the company would continue to produce room air conditioner units at the highest possible rate within emergency restrictions set by the government.

"We believe that the future of the room air conditioner industry may soon rival that of television," he said.

"When we consider the multiple sales potential in homes and the commercial applications, we begin to visualize a far greater market than is available to television or any other major appliance."

addition, 824 proprietors of unincorporated houses devoted the major portion of their time to the business in November, 1948.

Total operating expenses, including payroll, amounted to slightly more than \$50 million during the year, or 24% of sales. Payroll totaled \$28.6 million or 13% of sales. These figures do not include any allowance on either count for operators of unincorporated businesses.

This is the first Business Census in which commercial refrigeration equipment and supply houses were classified separately, and is a part of the 1948 Census of Business, a nationwide survey of wholesale establishments, retail stores, and selected service businesses. This particular release is one of a series on wholesale trade.

Included in this report, according to the Census release, are supply houses primarily engaged in selling commercial refrigeration equipment such as refrigerators, display cases, freezers, dispensers, water coolers and food locker equipment to stores, restaurants, hotels, offices and other commercial users. Distributors specializing in the sale of refrigeration components are also included. Many houses, the report states, combine sales and service. Not included in this report are sales branches and offices of manufacturers of commercial refrigeration equipment and supplies.

CENSUS REPORTS ON COMMERCIAL FIELD

There were 1,223 establishments in the U. S. primarily engaged in selling commercial refrigeration equipment and supplies in 1948, according to a report released by the Bureau of the Census, U. S. Department of Commerce. Dollar volume of business for these houses totaled \$220 million during the year, according to the report.

The trade employed 8,067 persons during the week of Nov. 15, 1948, with a payroll for the week amounting to more than one-half million dollars. In

JORDON CABINETS SHIPPED TO OSLO

Jordon Refrigerator Co., Philadelphia, has announced a recent shipment of frozen food merchandising cabinets to the Frionor Co. of Oslo, Norway, one of the leading frozen food packers and distributors in Europe.

The Frionor Co. processes frozen fish and exports throughout Europe as well as to the United States and the Middle East. Shipment of the units, all 9 cu. ft. frozen food cabinets, was negotiated by Joseph Miller, Jordon's export distributor.

**COOLING
TOWERS**

GAS EQUIPMENT

**AIR COOLED
HEAT EXCHANGERS**

Producers of
**QUALITY
Specialized Process
EQUIPMENT**

**Here's Why YOU'LL
WANT TO SPECIFY**

The
Pritchard "SRF" Tower!

Sturdily constructed of finest California Clear-Heart Redwood, Pritchard Series "SRF" Cooling Towers are especially suited to air conditioning or refrigerating installations requiring 3 to 24 tons capacity.

For lowest initial cost, longest life, greatest efficiency, specify and install the Pritchard "SRF" Tower! Your inquiry invited.

Write for FREE Bulletin No. 5.9.081

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Representatives in Principal Cities

Circle No. 35 on Reader Service Card

DALLAS CONFERENCE DRAWS 1300 MEN; 61 FIRMS EXHIBIT

The 1951 Southwestern Refrigeration and Air Conditioning Conference held in Dallas on Jan. 26, 27, drew an attendance of approximately 1,300 with 61 leading manufacturers exhibiting educational displays.

The question and answer period each morning was once again a popular feature. Some of the questions discussed were moisture and wax separation from oils, deposits in water-cooled condensers, the problems involved in changing from methyl to Freon, the use of methyl chloride in systems where

Next educational conference sponsored by REMA and RSES will be held at Hotel Statler, Buffalo, on April 6, 7, and 8.

aluminum is used, pressure drop through evaporators, etc.

George J. Schuld, Sr., international safety director of RSES, in his talk on safety cited many examples of accidents in the field and urged preventative measures. He also called attention to the fact that April has been set aside as National Refrigeration Safety Month.

Frank Y. Carter, chief sales engineer, Detroit Lubricator Co., spoke on methods which could be used in the field for removing moisture from refrigeration systems and pointed out some of the underlying features involved in moisture removal.

R. H. Luscombe, sales manager, Penn Electric Switch Co., gave a complete explanation of methods for defrosting commercial refrigeration equipment. He covered the three methods—(1) electricity, (2) water, and (3) hot gas (both with and without supplementary sources of heat). His talk was basic in nature and covered all makes of equipment.

John H. Spence, service manager, Hussmann Refrigeration, Inc., explained how manufacturers are designing new equipment to fill the need of present-day, modern merchandising methods.

Cyrus W. Miller, executive secretary, Refrigeration Industry Safety Advisory Committee, discussed provisions and features of the B9.1 National Safety Code for refrigeration and urged its universal adoption by all cities and municipalities who are considering a refrigeration code. He also outlined the best steps to be taken in legally adopting this code.

Winners of the awards for educational displays (in the order named) were Detroit Lubricator Co., Mueller Brass Co., and Sporlan Valve Co. Presentation of the awards was made by Jack Glass, president of Refrigeration Equipment Wholesalers Association.

The RSES banquet on Jan. 27 at the Baker Hotel was attended by nearly 500 people. High spot of the evening was an audience participation number in which Isaac A. Boage, a blind service engineer of Lubbock, Tex., won first prize for his dancing and barely edged out the runner-up, H. L. Garland, conference secretary at Dallas, who proved a riot in the role of a jitterbugger.

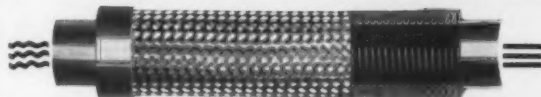
Men of the refrigeration industry who comprised the "board of experts" were: L. W. Larsen, sales manager, Tecumseh Products Co.; William Wischmeyer, chief engineer, Sporlan Valve Co.; G. E. Graff, sales manager, Ranco Inc.; Bryant Britt, service manager, Wagner Electric Co.; John H. Spence, service manager, Hussmann Refrigeration, Inc.; Israel Kramer, president, Kramer Trenton Co.; Edward Kellie, president, Aminco Refrigeration Products Co.; R. H. Israel, sales manager, refrigeration division, Virginia Smelting Co.; F. Y. Carter, chief sales engineer, Detroit Lubricator Co.; E. E. Thompson, technical service engineer, Davison Chemical Corp.; R. H. Luscombe, sales manager, Penn Electric Switch Co.; H. T. Jarvis, vice president, Refrigeration Engineering, Inc.; Paul Domke, field promotion manager, Mueller Brass Co.; George Boepple, sales manager, Alco Valve Co.

Paul B. Reed, educational director of RSES, acted as moderator.

CMH

VIBRA-SORBERS

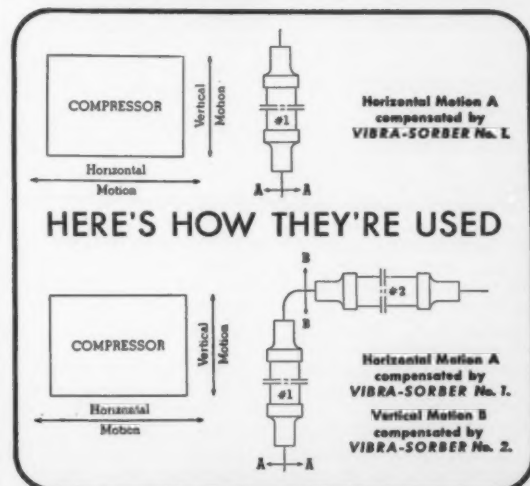
*the preferred method
of isolating compressor
VIBRATION*



CMH VIBRA-SORBERS installed in lines to and from compressors help keep objectionable noise out of the system . . . reduce damage to fixed piping or tubing resulting from vibration. Whether its a small room air conditioner or a huge commercial refrigerating plant, VIBRA-SORBERS provide the dependable vibration absorption so necessary to the long life and good service of the plant.

VIBRA-SORBERS are standard lengths of metal braid covered sections of corrugated bronze or steel hose. They are available in standard sizes from 1/4" through 4", I.D. (larger sizes also available). Furnished with straight extended tube ends or threaded fittings; bent extended tube ends for angle installations are also available.

Write for data sheets giving full information on VIBRA-SORBERS.



CHICAGO METAL HOSE CORPORATION
1321 S. Third Ave., Maywood, Illinois
Manufacturers of Flexible Metal Hose, Metallic Bellows
and Bellows Assemblies and Expansion Joints for Piping



CMH

ONE DEPENDABLE SOURCE
for every flexible metal hose requirement

Circle No. 36 on Reader Service Card for more information

INDUSTRY ADVISORY GROUP MEETS WITH DEFENSE OFFICIALS

Members of the Commercial and Industrial Refrigeration and Air Conditioning Industry Advisory Committee met Jan. 19 with officials of National Production Authority to discuss problems arising in the industry as a result of NPA's recent copper and aluminum conservation orders.

Members asked NPA to let them know in advance whenever the government is preparing similar orders so that they could prepare production schedules in line with the limitations or changes. They warned that sizeable cutbacks in production of refrigeration equipment would seriously affect the preservation of food supplies in new locations.

Concern also was expressed by committee members over the possibility that because of reduced supplies of basic metals they may be forced to lay off skilled workers, who might not be available when defense orders are placed with the industry.

NPA told the committee that the copper situation will continue to be tight, and that aluminum supplies will not ease for some time until additional facilities now under construction are completed during the next 18 months.

Represented by committee members at the meeting were manufacturers of air conditioning equipment, water coolers, ice cream cabinets, refrigeration units, commercial refrigerators, valves, tubing, and similar industrial and consumer equipment.

Marshall M. Smith, director of NPA's Machinery Division, presided at the meeting. Industry members present were:

W. H. Aubrey (Frick), H. M. Brundage (G-E Air Conditioning), A. J. DeFino (Fedders-Quigan), H. G. Munce (York), A. P. Shanklin (Carrier), W. A. Siegfried (Superior Valve), Will Hanford (Bush), H. F. Hildreth (Westinghouse), H. T. Jarvis (Recold), George S. Jones, Jr. (Servel), L. N. Lucas (Bastian-Blessing), E. C. Marsden (Marsden &

AIR GETS A MEASUREMENT



Science gives you the air—and plenty of it—with this paddle wheel anemometer used to measure the air discharged from air conditioning outlets. Perfected at Armour Research Foundation of Illinois Institute of Technology, the instrument was used to set up standards by the Ventilating and Air Conditioning Association of Chicago. Taking a fresh air measurement here is Nicholas Turcic, technician at the Foundation.

Wasserman), W. B. McMillan (Hussmann), Orville C. Morrison (Sunroc), T. S. Pendergast (Tecumseh), F. W. Smith (Baker), W. E. Switzer (Frigidaire), R. J. Thompson (Kinetic Chemicals), A. B. Newton (Acme), J. H. Coolidge (Scherer-Gillette), and R. H. Israel (Virginia Smelting).

Hanford was an alternate for E. M. Flannery, Pendergast for Frank K. Smith, and Newton for K. A. Weatherwax. Members of the committee not present were Henry Steinhorst (Steinhorst), G. E. Wallis (Creamery Package), and A. G. Zumbun (Brunner).

NPA named a four-man task group to study the problem of critical materials and make recommendations for substitutions, simplification, salvage and changes for clearance through the advisory committee. This will include a review of Limitation Order L-126, issued by WPB during World War II.

On the task group are H. F. Hildreth, M. G. Munce, W. A. Siegfried and T. S. Pendergast. Sterling Smith, presently a part-time consultant with NPA, will chair the group. It is planned to enlarge the committee by including E. M. Flannery and C. V. Hill, Jr. (Hill), to give all segments of the industry representation.

RECORD LICENSES NIAGARA BLOWER ON WATER DEFROST

Another important firm in the commercial refrigeration industry has just been granted license to manufacture Water Defrost Coils, according to an announcement by Hy Jarvis, vice president and general manager of Refrigeration Engineering, Inc. holder of the patent covering the Water Defrost Principle.

Niagara Blower Co., New York City, is the seventeenth firm to be issued such a license by Recold.

AIRTEMP FIELD MEN HEAR 1951 PROGRAM

District representatives of Airtemp Div., Chrysler Corp. held a three-day business conference with factory executives in Dayton recently where the 1951 sales program was outlined and new products were announced.

C. E. Buchholzer, president, and C. S. Stackpole, vice president and general sales manager, presided at the conference. Other factory executives participating in discussions were J. F. Knoff, assistant sales manager; M. T. Bard, director of national accounts; M. J. Leonard, director of heating sales; W. B. Magill, advertising manager.

LIMITATIONS ON BUILDING WIDENED

Additional limitations on certain types of commercial construction were issued by National Production Authority on Jan. 13 when the agency issued an amendment to Order M-4.

Under the amended order, specific authorization from NPA will be required for the construction of restaurants, retail stores, drug stores, soda fountains, shopping centers—to mention establishments in which considerable amounts of refrigeration equipment might be used.

Generally speaking, under the new order commercial construction will be authorized when it (1) furthers the defense effort; (2) is essential to public health, welfare or safety; (3) will alleviate or prevent a hardship to a particular community.

The order provides that small jobs of new construction or things like alterations, additions or improvements and modernizations where the construction cost of such work does not exceed \$5,000 are not required to apply for specific permission under the regulation.

This apparently would take care of installations of refrigeration and air conditioning equipment involving construction up to this amount. Regional offices of the U. S. Department of Commerce are prepared to answer questions concerning application of the order. These offices are located in Boston, New York, Philadelphia, Cleveland, Chicago, Atlanta, St. Louis, Kansas City, Dallas, Minneapolis, Denver, Seattle, Los Angeles and San Francisco.

S. R. LEWIS AWARDED ANDERSON MEDAL

Samuel R. Lewis, consulting mechanical engineer of Chicago, has been awarded the 1950 F. Paul Anderson Medal of the American Society of Heating & Ventilating Engineers. Announcement of the award was made during the recent ASHVE 57th annual meeting by Lester T. Avery, ASHVE president. Lewis, a past president of ASHVE, is also a member of ASRE.



Over the COUNTER

Don't Tell Me It Won't Work!

(An imaginary interview with a former big-volume wholesaler, as reported by the Big Town "Bugle").

A. P. CUTTER, christened Abel A. Price Cutter, was President of the A. P. Cutter Co., promising refrigeration wholesalers. His business had grown by leaps and bounds. His volume far exceeded his more conservative competitors.

In the good old days he often explained to me and others, in answer to our query, "How do you get so much business?", something like this:

"It's a matter of using your head. You got to have angles and ideas to get the big business. For instance, my foggy competitors stick to regular prices. Not me, I'm smart. I go to a customer and say, 'you're foolish to pay regular prices, give me the business. I'll sell you items one at a time and then credit you at the end of the month for the difference on the quantity prices for what you bought.'

Why Not Get It All?

"Do that on all items with quantity prices. Gives me a big volume. Easy, eh? They all fall for that. We sell lots of stuff. Another angle we use that's good, is to go after business out of our territory where wholesalers stick to regular prices. Pay the freight on shipments so we meet the terms and prices of the wholesaler located there.

"If that don't get the business we slip them a 10% discount. This extra business builds up the volume. We give 'em only 10%; less than our cost to go there to sell 'em. Don't tell me this don't work. I know it does—builds volume, more sales.

"Now don't tell me there ain't no profit in sales at 10% off. I get the volume by splitting the profit. Give

the customer 10%, keep 10%; builds volume, gives me big sales. More sales, more money in the kitty is my motto.

"You know a manufacturer tried to tell me I lost profit by giving 10% discount. Such silly talk! I double my volume—bring in lots more money. He even tried to tell me my cost of doing business was more than the profit I had left. He ain't smart like me. He forgot the increased volume I get for cutting prices.

"Take Freon, for instance; all these other guys stick to 47 or 48 cents. Me, I sell it across the line at 42 cents, sell all I get, even turn down orders. Why don't these other chumps catch on, get wise, go after volume?

One Way to Outsmart 'Em

"Another sure-fire angle for big volume is take on customers your competitor puts on C.O.D. This makes customers mad. They don't want to pay cash so we give 'em credit, get all the business, figure that's a good investment for more volume. Lots of volume is there, if you know all the angles like me.

"One thing about you newspaper fellows, you don't forget your old customers and friends. Remember how I used to place ads in the paper to pick up a little consumer business on the Q.T.?

"Guess you was surprised to find me in this Hobo Jungle. Fact is, I was going swell, lots of volume, big sales, plenty more angles for more volume which I never used. You see, I was all set to go ahead, expand more, use new angles for more volume, bigger sales, but overhead kept going up and up, collections went stale, I ran out of cash and it just cleaned me out before I had a chance to use any of these new angles. Bank

just closed me up. Old fashioned, these banks—couldn't appreciate all my angles.

"Say, if you know some poor guy going into business, tip him off to some of the angles I gave you. They'll get him plenty of volume, big sales. Sorry I haven't time to give you more angles, but here comes the freight I'm taking out of town. Don't forget to pass the word along.

"See you later, after high operating costs go down and collections get better, then I'll get some guy to put up the cash for a new business. I'll be all set to use more new angles next time. Don't try to tell me those angles don't work—I'm smart, see?"

WHOLESALE OPENS IN GRAND RAPIDS

Clement Electric Distributing Co. has recently announced the opening of a new wholesale refrigeration supplies division, featuring condensing units, motors and controls, tubing, fittings, driers refrigerants and oils, gauges, air filters, v-belts, and ventilating equipment. Location is at 223 Erie St., N.W., Grand Rapids, Mich. S. B. Gaylord is general sales manager.

STANDARD SUPPLY OPENS BRANCH IN CONNECTICUT

A branch of Standard Supply, Inc., refrigeration parts wholesaler, has been opened in Norwalk, Conn. Located at 76 Cedar St., the branch serves Fairfield, Conn., as well. James F. Rees is manager of the branch. President of Standard Supply, which has headquarters in Worcester, Mass., is R. W. Sheperdson.

CLEVELAND FIRM FORMED TO SELL WESTINGHOUSE

Cleveland Air Conditioning Corp., 3030 Euclid Ave., Cleveland, Ohio, has been formed by Leonard F. Auerbach to serve as distributor in this area for Westinghouse packaged air conditioning equipment.

Auerbach, who has had a varied experience in air conditioning sales work and was the author of a widely read series of articles entitled "Sales Slants on Air Conditioning" which was published in COMMERCIAL REFRIGERATION magazine last year, is president of the new concern.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

SERVICE TRUCK . . .

Continued from page 43

this whole side, giving the service man ample room to handle all types of repairs ordinarily met in his daily calls. Two shelves under the part of the bench nearest the front are used for storage of replacement electric motors. Space is sufficient for a good stock of commonly used capacities.

Tools are carried in a section at

the back part of the work bench. This section has no open storage space below, but has a hinged top so that tools can be stored inside, and is fitted with a hasp to allow a padlock to be used to "lock up" the contents.

At the rear of the truck, just back of the work bench area, are three tiers of holders for refrigerant cylinders; six cylinders, in all, can be carried at one time. On the other side of the truck at the rear is a com-

partment in which to carry welding and brazing equipment.

Floor of the truck is left open, and there is plenty of space there for carrying condensing units and even small commercial cabinets, should this be necessary.

The work bench itself is clear, except for a vise, which is adjustable, and which, Kehe says, is practically indispensable to a setup of this kind.

Kehe says that any refrigeration man, with a little ingenuity, can equip himself with a "traveling service shop" of this sort, and that it really pays dividends in faster and more efficient servicing and installation work.

CROWDED CLUBROOMS . . .

Continued from page 32

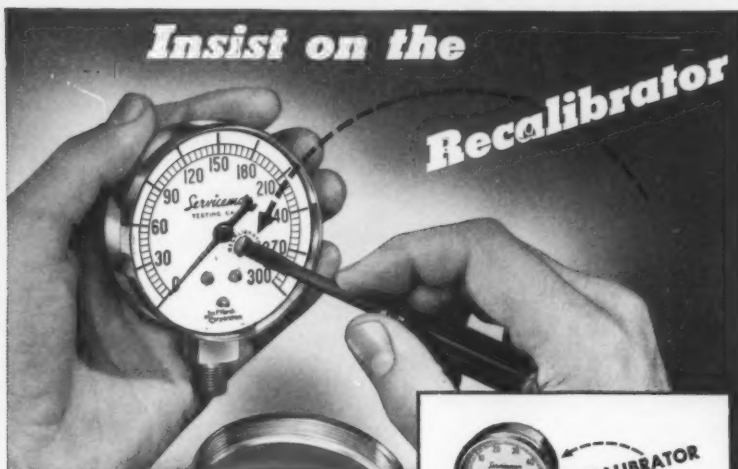
placed on the second floor. When there is a large crowd downstairs, only the one unit is needed to cool the dance floor, since almost never are both floors of the club crowded at the same time.

But how about the lower floor, when there is a big dance or wedding upstairs, and all available air conditioning is needed there? The answer is simple—return air from the upper floor passes right back to the ground floor, and provides plenty of cooling for patrons of the bar and other downstairs facilities.

Bob Lebowitz, of Lebowitz Bros., the distributor who installed the units, reports that the packaged equipment has proved versatile enough to handle the club's highly flexible range of occupancy. On one occasion, he says, the club had a wedding party upstairs, with over 400 attending; downstairs, about 75 persons were using the bar. Conditions in both places were comfortable, although all cooling was directed initially toward the upper floor.

On another occasion, when there was a small party upstairs and the lower floor was crowded, the single 10-ton unit cooled the upstairs and the other two units cooled the lower level.

Another vote for the club's cooling system comes from manager Henry Japens. He figures that the present installation meets the club's particular load problems both easily and economically, and that both initial and operating costs have been lower than could have been realized with any other type of plant.



— Vital to Every Testing Instrument

Using a testing gauge that doesn't have a convenient means of keeping it accurate is like using a cutting tool without a handy means of keeping it sharp.

Like good cutting tools Marsh Gauges are "sharper" to begin with, but if you ever knock them out of adjustment you can "sharpen" them up in flash with the twist of a screwdriver.

That's why every true craftsman prefers Marsh testing instruments. When the pointer fails to return to zero just turn the Recalibrator screw until accuracy is restored. And remember: the Recalibrator is the one sound way to "sharpen" a gauge because it gets right down to the source of the error . . . corrects the relation of the bourdon tube to the movement.

Marsh testing gauges and thermometers are the only testing instruments that have the "Recalibrator". Use these tools that are right and can be kept right.

See your jobber

WRITE FOR BULLETINS

MARSH INSTRUMENT CO.

Sales Affiliate of Jas. P. Marsh Corporation
DEPT. P, SKOKIE, ILL.



Easily removed knurled rings on the new, handsome Marsh testing gauge set gives quick access to the "Recalibrator." Here is the team of thoroughbreds for the serviceman who wants the best. (Dial size, 2 1/2").



The "Recalibrator" is the finishing touch to this finer testing gauge with three extra color differentiated scales for sulphur dioxide, methyl chloride, and Freon. (Size, 2 1/2").



The "Serviceman" thermometer also has the "Recalibrator." Note the 4-scale version of the Serviceman with color-differentiated pressure equivalents.

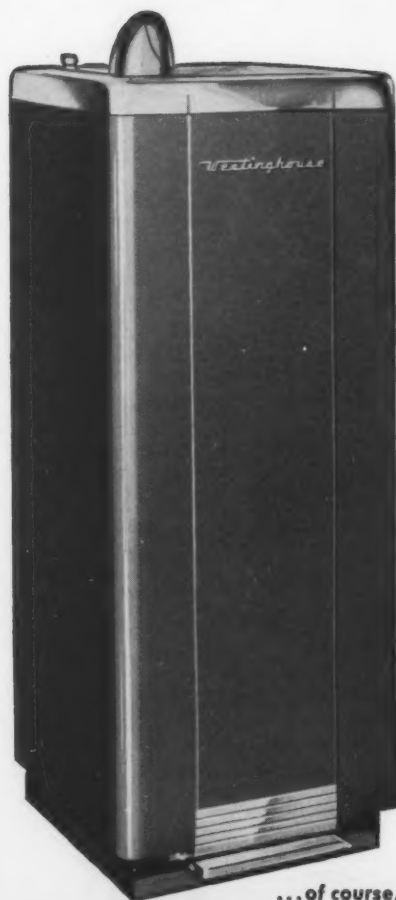
MARSH

Refrigeration Instruments

Circle No. 37 on Reader Service Card for more information

FOR INDUSTRIAL MOBILIZATION... Sell Westinghouse!

IT'S THE



...of course, it's electric!



**BUILT RIGHT...
PRICED RIGHT...
AMAZINGLY FREE
FROM SERVICE**

Sell Westinghouse! Sell the Leader! Since mobilization for the defense effort will mean new facilities and the expansion of present ones, *your best approach is to the architect and consulting engineer.* These specialists have many industrial and defense plants and other high priority jobs on the drawing board which will carry D.O. ratings for Water Cooler requirements. Now is the time to see them . . . tell them . . . sell them Westinghouse Water Coolers . . . BECAUSE they like:

- **AUTOMATIC STREAM-HEIGHT REGULATOR** that assures a cool drink . . . never a dribble or an eyeful.
- **STAINLESS STEEL TOPS** . . . nonbreakable and easy to clean.
- **FOOT PEDAL CONTROL** . . . just step on the pedal for a drink of water.
- **COMPACT DESIGN** . . . occupies only 14" by 14" floor space.
- **5-YEAR GUARANTEE PLAN.**

Westinghouse and *only* Westinghouse has them all.

A Cooler for every industrial need! Ten models available including heavy-duty air-cooled, water-cooled and explosion-proof Coolers. Contact architects, consulting and specification engineers for your share of this market. In the months ahead, sell the Cooler that already has high acceptance from Government and industry.

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Springfield 2, Mass.

**YOU CAN BE SURE..IF IT'S
Westinghouse**

For further information call your Westinghouse Distributor or mail the coupon below:

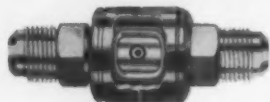
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City _____
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3CRAC

the LIQUID EYE

5 Years Ahead!

Experience - Leadership - "Know-How"



A Proven Product

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1/4" - 3/8" - 1/2" - 5/8"

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or Solder Connections

SEAL CAP on 1/2" and 5/8" **LIQUID EYE** Indicators gives extra protection against sudden blows, prevents breakage and guards against loss of refrigerant. The **SEAL CAP** is threaded externally and it is only necessary to back cap off by hand for instant inspection.

Again Allin leads the way with
practical refrigeration products.

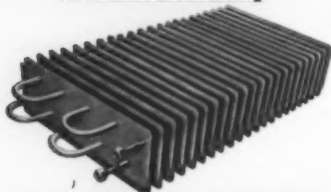
Ask to see **LIQUID EYE** at your **JOBBER**.

ALLIN MANUFACTURING COMPANY

1153 West Grand Ave., Chicago 22, Ill.

LOOK to LARKIN

for Durability



THE ORIGINAL, PATENTED CROSS-FIN COIL

The refrigeration coil that changed an industry stands today unchallenged for performance, user satisfaction and lasting durability. Made from only the finest materials by skilled craftsmen under exacting standards, every Larkin Coil features imbedded fin-to-tube contact, swaged connection, silfos welded construction, and staggered tubing. Write for complete details.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

119 MEMORIAL DR. S.E. • ATLANTA, GA.

Circle No. 40 on Reader Service Card
54

USEFUL

BULLETINS • BOOKLETS • CATALOGS

The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

Refrigeration Oils . . . A folder issued by Sun Oil Co. on the new line of refrigeration oils it has announced for higher-operating temperature air conditioning and refrigerating equipment. Entitled "New Refrigeration Oils for Higher Operating Temperatures," the folder briefly presents the reasons and research behind the development of Suniso 300 oils, and outlines the characteristic of each grade.

Circle No. 100 on Reader Service Card

Cooling Towers . . . A 4-page bulletin issued by E. D. Goodfellow Co., Inc., giving complete data on the Good-Fellow line of cooling tower equipment. The bulletin outlines all construction data on the equipment, and lists standard engineering, dimensional and capacity data on all models.

Circle No. 101 on Reader Service Card

Automatic Ice Cuber . . . Operational cycle of the automatic ice cube maker distributed by Cold-Trol Co. is outlined step by step in a specifications sheet available from that firm. The unit is pictured and all features are described in considerable detail.

Circle No. 72 on Reader Service Card

Tubing Staples . . . A folder issued by E. H. Titchener & Co. describing two new, extra-long staples for fastening copper and brass tubing in locations where dry board or plaster must be penetrated before the staple comes in contact with the joints. Company now has five sizes of staples available for various fastening requirements.

Circle No. 103 on Reader Service Card

Pre-Built Shelving . . . A 12-page booklet issued by S. A. Hirsh Mfg. Co. describing the new Hirsh pre-built line of wall shelving, streamlined gondolas and shelf uprights for installation in food stores. Booklet gives specifications and dimensions of various models, tells how to assemble them, describes and illustrates new "Hirshwood" oak finish.

Circle No. 104 on Reader Service Card

Packaged Air Conditioning . . . A unique promotional booklet, die-cut as a detailed sectional representation of its packaged refrigerated cooler-air equipment, issued by U. S. Air Conditioning Corp. to illustrate graphically the features of this compact unit. Double-flap cover of

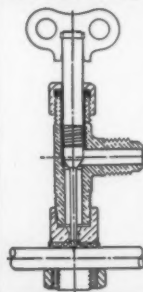
booklet is a cut-out photo of unit and opens outward to reveal sectionally cut-out picture of equipment's interior. Part depicting each of unit's basic components also opens separately to reveal a description of that section. Remainder of booklet provides installation diagrams and instructions, general specifications and capacities of the equipment, etc.

Circle No. 105 on Reader Service Card

Air Improver . . . A bulletin issued by W. B. Connor Engineering Corp. describing its "Dorex" air improver, which "soaks up" odors through the use of activated carbon. The device is said to purify 60 cu. ft. of air per minute, maintaining good quality ventilation in space up to 1500 cu. ft.

Circle No. 106 on Reader Service Card

SEE THE NEW "Japaline" HERMETIC GAUGE PORT



A tool every service man should carry

A permanent gauge port on hermetically sealed units

To correctly diagnose trouble in refrigeration systems, head and back pressures should be known

Easy to install—mounts in any position—no special tools needed—fits tight spots

3 Sizes to Fit
1/4" - 5/16"
3/8" Tubing

ORDER FROM
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MECHANICAL REFRIGERATION ENTERPRISES

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Circle No. 41 on Reader Service Card

Clinch Repeat Business— with Genuine *Kelvinator* Repair Parts!

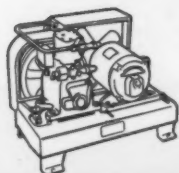


NOW—more than ever before—your customers need dependable, trouble-free refrigeration equipment. Kelvinator products are *built right, priced right and bear the name* that for 37 years has meant *unfailing dependability* to users everywhere. Customers know they can obtain *genuine* Kelvinator repair parts when needed—to assure continuous, efficient operation of their equipment. So sell Kelvinator and you'll be *sure* of satisfied customers and profitable repeat business. Get complete information on Kelvinator's complete line of refrigeration products and repair parts at your nearest Kelvinator Supply Depot. Write, phone or stop in for helpful information on installation or service problems. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

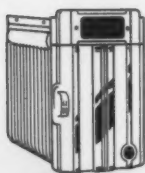
PROFIT TODAY...BUILD FOR TOMORROW WITH

Kelvinator

THE NAME THAT SELLS...THE NAME THAT SATISFIES!



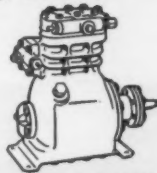
**KELVINATOR OPEN TYPE
CONDENSING UNITS**
($\frac{1}{8}$ H.P. to 5 H.P.)



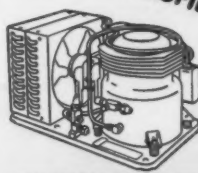
**KELVINATOR
STAINLESS STEEL
EVAPORATORS**



**KELVINATOR SILICA
GEL DRIERS**



KELVINATOR COMPRESSORS
($\frac{1}{8}$ H.P. to 5 H.P.)



**KELVINATOR SEALED TYPE
CONDENSING UNITS**
(up to $\frac{1}{2}$ H.P.)

Circle No. 42 on Reader Service Card for more information

NEW

PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Water Coolers

Product: 1951 line of water coolers.

Manufacturer: Fedders-Quigan Corp., Buffalo, N. Y.

Features: First complete line produced for sale under the Fedders label, it comprises one bottle cooler and five bubbler types. Bottle cooler is capable of serving up to 180 persons per hour, while capacity of bubbler coolers ranges from 30 to nearly 300 servings per hour. All models carry 5-year warranty on refrigerating circuit, including hermetically sealed motor compressor assembly, tank, and cooling coil. One of the largest units (Model 3TE-10W) is especially designed for use in industrial plants where explosive atmosphere is present. All controls and electrical connections are sealed in condulets and water-cooled condenser is used.

Circle No. 130 on Reader Service Card

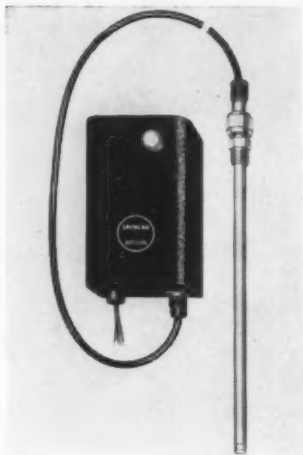
Liquid Level Control

Product: "Select-A-Level" liquid level control, an electronic device used to maintain liquid level of flooded type refrigeration systems using Freon-12, Freon-22, or ammonia.

Manufacturer: Sporlan Valve Co., St. Louis, Mo.

Features: Designed to actuate a solenoid valve, magnetic contactor, or other equipment requiring opening and closing of an electrical circuit to maintain constant liquid levels. Consists of three major parts: control unit, sensing element and coaxial cable which connects the other two. By simply setting two dials, this control will indefinitely maintain refrigerant level within differential range and levels established. Has no moving parts in direct contact with refrigerant. Sensing element is porcelain coated steel rod mounted in

a steel tube which electronically senses any change in its electrical capacity caused by a rise or fall of the liquid refrigerant. Through functioning of a vacuum tube, a relay in the control unit actuates a solenoid



valve or other equipment requiring closing and opening of an electrical circuit. Sensing element can be installed directly in a refrigerant evaporator-accumulator or pressure vessel, or it may be used in any liquid column where present practice utilizes a mechanical float unit. Liquid levels can be maintained anywhere between 0 and 30 inches, depending upon length of element used. Component parts of main control unit are replaceable. By merely changing position of refrigerant selector plug in control unit the control will maintain level of Freon-12, Freon-22, or ammonia. For special purposes such as actuation of a refrigerant circulating pump a reverse action selector plug is available.

Circle No. 131 on Reader Service Card

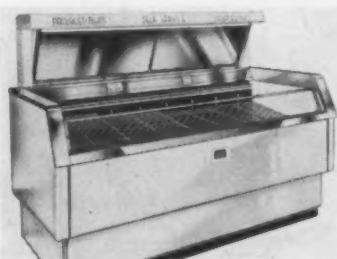
Self-Service Meat Cases

Product: Series 700 and 800 self-service meat display cases.

Manufacturer: Koch Refrigerators,

North Kansas City, Mo.

Features: Cases in both series are identical, but Series 800 cases have an added "Salesmaker" superstructure which provides full-length fluorescent lighting and lighted display



signs. Cases in both series are readily accessible from the rear, for servicing without interrupting customer traffic. Series 800 cases have sliding panels of plate glass mirror to permit rear service. Cases come in 7 and 10-foot lengths with removable ends for joining, permitting any variety of floor plan. Designed to keep packaged and pre-cut meats at convenient, hand-level heights. Shelves are fully adjustable at both ends. Welded steel construction finished in fadeproof white porcelain, with stainless steel along top and arms of basic case, extending below and in front of triple-glazed glass front, to prevent damage from customers' shopping carts. Ample capacity refrigeration coils are factory tested. Permanently oil-sealed fan motor is standard equipment.

Circle No. 132 on Reader Service Card

Open Vegetable Case

Product: Self-service fresh vegetable display cabinet.

Manufacturer: Cunningham



Products Co., Detroit, Mich.

Features: Open top. Full vision



IF IT'S CUSTOMERS YOU WANT

...then start now and install

BRUNNER
SINCE 1906

AIR CONDITIONING

Last year we increased our production schedules on Brunner Self Contained Air Conditioners three times—*demand was triple that for which we had planned.*

This more than anything else we can tell you, proves that in a highly competitive market, Brunner units offered more of what the buyers wanted.

When a prospect asks what you have to offer it's a mighty satisfying feeling to say "Brunner," then proceed to show him design features that even a layman can understand will deliver air conditioning values which more than justify the investment.

There is no reason why you should sell the hard way—sell BRUNNER. It costs nothing to listen so use the coupon to make a date.

BRUNNER MANUFACTURING COMPANY
Utica 1, New York, U. S. A.

*Tear out
and Mail!*

I'm willing to do more business. Have your factory field representative stop in and bring me up-to-date on what Brunner has to offer me as a dealer. Send current catalogs in the meantime.

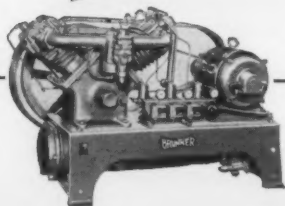
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BRUNNER
SINCE 1906



Completely Brunner built... backed by a fine reputation forty-five years old.

REFRIGERATION CONDENSING UNITS by
AIR AND WATER COOLED MODELS—a size
and type for every purpose... 1/4 HP. TO 75 HP.

BRUNNER
SINCE 1906



AIR CONDITIONING

- Self Contained 3 HP. to 10 HP.
- Remote Type 3 HP. to 75 HP.

Circle No. 43 on Reader Service Card for more information
and **AIR CONDITIONING • MARCH, 1951**

front. Equipped with fresh water spray heads that deliver an ice cold fog mist at determined intervals to keep vegetables fresh and eliminate trimming and loss from spoilage and dehydration. Powered with $\frac{1}{2}$ -hp Tecumseh condensing unit providing refrigeration to middle shelf and all sides and ends of evaporator. Constructed of high tensile strength aluminum finished in white baked enamel.

Circle No. 133 on Reader Service Card

Drink Dispenser

Product: Model T.S.4 refrigerated bulk drink dispenser for milk and other beverages.

Manufacturer: Thomas-Terry Corp. of America, Minneapolis, Minn.

Features: Holds two 5-gal. cans for milk and two $2\frac{1}{2}$ -gal. cans for such beverages as buttermilk or tomato juice. All containers easily and quickly removed and refilled. Complies with all health requirements.



Simple plug-in connection eliminates installation cost. Stainless steel containers. Beverages thermostatically kept at perfect serving temperature by sealed refrigeration unit. Compactly designed and measures only $41\frac{1}{2}$ inches high, 33 inches wide, and 16 inches deep. Bottom serving shelf is 17 inches deep.

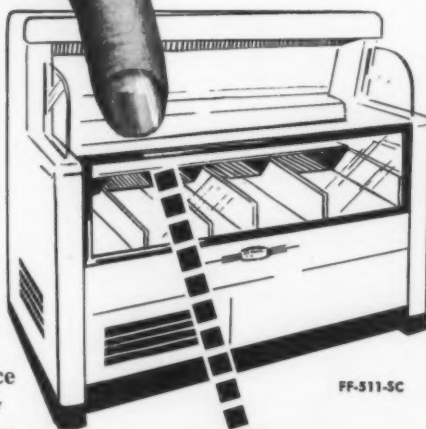
Circle No. 134 on Reader Service Card

POINT OF SALE REFRIGERATION

An important point?

It certainly is—and you're there with what it takes when you promote and sell the **STERLING Open Frozen Food Case**. Fine design, **LOWER OPERATING COSTS**, higher-quality refrigeration performance make this the perfect low temperature case for any grocery, delicatessen, or food store. In five-foot size only.

Minneapolis Show Case and Fixture Company
New Richmond, Wisconsin



FF-511-SC

Write for
complete
catalog



STERLING 66

400 R6

PG 600-SC

D-502-SC

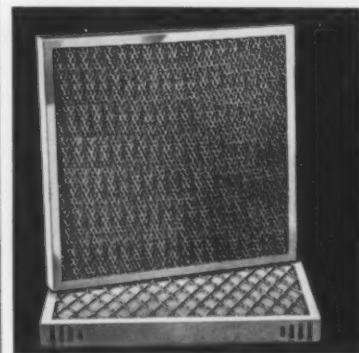
Circle No. 44 on Reader Service Card for more information

Permanent Cleanable Filters

Product: "Airsan" permanent cleanable filters designed for average conditions.

Manufacturer: Air Filter Corp., Milwaukee, Wis.

Features: Employ viscous impingement principle. Provide ef-



fective filtering action with large dust storing capacity and low resistance. Filter core is constructed of multiple layers of crimped wire mesh specially arranged, which provides an exceptionally large contact area and imparts a turbulent swirling action to the air passing through. Core is viscous coated, causing dust particles to become impinged upon the mesh. Crimped expanded metal face distributes air uniformly over the entire filter area, as well as arresting lint and preventing it from becoming

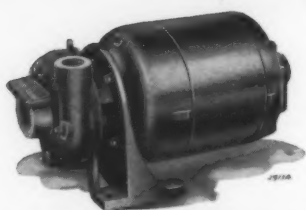
Is your air-conditioning equipment **OVERLOADED** with **EXCESS H. P.?**

Here's how you can cut first cost and power costs by specifying smaller, more efficient I-R Motorpumps.

Today, more than ever before, users of air conditioning equipment are looking for ways to save—not only on initial investment, but on operating costs as well. And they certainly don't want to pay for more horsepower than they need.

Take the pumps, for example. Why use a pump that requires a 2 h.p. motor when a 1½ h.p. I-R Motorpump may do the same job at so much lower cost? The higher efficiency and non-overloading characteristics of I-R Motorpumps permit you to cut your costs—and perhaps reduce the size and weight of your equipment as well. Their outstanding record for dependability under all types of operating conditions means more satisfied users—and more repeat orders.

Call your local I-R pump distributor or nearest Ingersoll-Rand branch office and have an experienced pump engineer show you how to save yourself and your customers money by using I-R Motorpumps engineered for the job. Prompt shipment from stock.

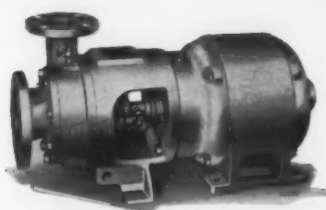


I-R MOTORPUMPS — Class KRVS

Single Stage, 5 to 125 gpm. Heads to 100 ft.
Suitable for 3, 5, and 7½ package units

These compact, high-efficiency, fractional hp Motorpumps require no special foundations, and may be mounted vertically, horizontally, or at any angle, provided the motor is not below the pump.

No drip pan is needed. A fool-proof mechanical shaft seal eliminates stuffing box leakage and requires little attention and maintenance.



I-R MOTORPUMPS — Class RV

Single Stage, 20 to 275 gpm. Heads to 500 ft.

For larger package units and engineered installations

These heavy-duty, completely self-contained units provide maximum efficiency for integral hp applications.

Features include—flexibility of mounting, ball-bearing-mounted oversize shaft, mechanically and hydraulically balanced impeller, and extra deep stuffing box which is easily accessible for packing.

THE CAMERON

MOTORPUMP

A PRODUCT OF

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.



473-9

COMPRESSORS • AIR TOOLS • ROCK DRILLS • TURBO BLOWERS • CONDENSERS • CENTRIFUGAL PUMPS • OIL AND GAS ENGINES

Circle No. 45 on Reader Service Card for more information
and **AIR CONDITIONING • MARCH, 1951**

imbedded in filter core. Can be thoroughly cleaned, recharged, and re-installed with a minimum of effort and expense. Filters are provided with drain slots to hasten drying. All metal construction to withstand severe usage. Formed steel frames fit accurately and have full welded corners and joints to assure long service.

Circle No. 135 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

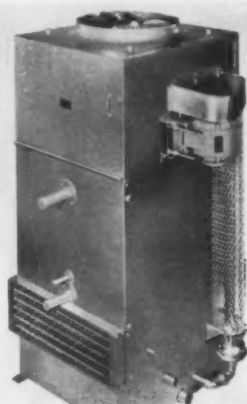
Evaporative Condensers

Product: New line of evaporative condensers (Type P) and a similarly designed line of cooling towers (Type PT) designed for outdoor installation only.

Manufacturer: Baltimore Aircoil Co., Inc., Baltimore, Md.

Features: Capacity range of evaporative coolers is from 3 to 100 TR, based on 40 F suction temperature, 105 F condensing temperature, and 78 F wet bulb, using Freon-12 refrigerant.

Capacity range of cooling towers is identical, based on 3 fpm per ton of refrigeration with 95 F water on the tower and 85 F off at



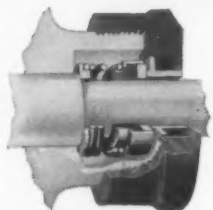
78 F wet bulb. "Mono-Drive" for fan and pump is standard on all sizes. Drive guards and rain hoods are also standard equipment. Vertical pumps drain automatically when sump is emptied. Ball bearing motors with special insulation for outdoor installation. No lubrication required. All casings provided with large access doors for inspection and maintenance. Condensers are suitable for either Freon or ammonia application.

Circle No. 136 on Reader Service Card

ROTARY SEAL

REPLACEMENT UNITS

UNIT NO.



3280

for Commercial, Semi-Commercial, Air Conditioning and Household Refrigerator Compressors . . Tested by time, proved by performance over 19 years . . *Simplicity in construction—easy installation—efficient operation—economy—you get every one of these important features in ROTARY SEALS!*

MORE
THAN
900
MODELS



AT
ALL
LEADING
JOBBER'S

"Seal with

Certainty!"

**2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U. S. A.**

CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 28, QUEBEC, CANADA

Circle No. 46 on Reader Service Card for more information

Tilting Motor Base

Product: Tilting motor base for use with fractional horsepower motors up to 1 hp.

Manufacturer: Lovejoy Flexible Coupling Co., Chicago, Ill.

Features: Adjustable in width and length to accommodate all sizes



and types of fractional horsepower motors. Light in weight; low in price; completely adjustable. In addition to using it with variable speed pulleys, it also acts as a belt tightener and can be used for easy belt changing on cone step pulleys. Speed changes can be made while machine is in operation, while constantly maintaining correct belt tension and alignment.



"Keep cool with ESTON!"



**METHYL CHLORIDE
SULFUR DIOXIDE**

Distributors of

FREON 11-12-21-22-113-114

In Standard Containers



NO CYLINDERS • NO DEPOSITS
Charg-A-Can
DISPOSABLE CONTAINER WITH
"FREON 12" • "FREON 114"
SULFUR DIOXIDE



ESTON CHEMICALS, INC.

3100 E. 26th St., Los Angeles 23 • 4900 Madison St., Chicago 44 • 60 E. 42nd St., New York 17

WAREHOUSES:

Seattle, Portland, Chicago,
St. Louis, Jersey City, Los Angeles



SALES OFFICES IN ALL PRINCIPAL TRADING AREAS

Circle No. 47 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

Exact speed control easily obtained by simply turning a handle screw adjustment. Measures only $5\frac{1}{2}$ x 7 inches. Shipping weight is 10 pounds.

Circle No. 137 on Reader Service Card

Room Conditioners

Product: 1951 line of room air conditioners.

Manufacturer: Mitchell Mfg. Co., Chicago, Ill.

Features: New and improved features on regular $\frac{3}{4}$ and $\frac{1}{2}$ -hp units plus two new units—a $\frac{1}{8}$ -hp condi-

tioner with capacity of 4200 Btu/hr and a heavy duty 1-hp machine with capacity of 11,500 Btu/hr. All four units are of window type and operate on exclusive principle said to assure maximum passage of low temperature refrigerant through cooling system by eliminating bends and other obstacles. Other features include drying arrangement to produce greater dehydration of air, specially designed fan, and more effective filter. Circle No. 138 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

'Frigeration Facts

by Schatell



A SPEEDER!
THAWZONE TRAVELS WITH
THE REFRIGERANT, SOMETIMES
300 FEET PER MINUTE!
ALL THE MOISTURE IN
THE SYSTEM IS REACHED
QUICKLY BY THIS
LIQUID DRIER.

FLUID TACTICS
OF SEARCHING OUT MOISTURE
FIND ANY MOISTURE TRAPS
IN RECEIVER, ETC. THAWZONE
LIQUID DRIER IS NOT STATIONARY—
IT "ROLLS" ON BILLIONS OF
"WHEELS OF LIQUID MOLECULES"
TO MOISTURE ANYWHERE
IN THE UNIT.

THAWZONE
THE ONLY PRODUCT
THAT DESTROYS
WATER AND
REACHES ALL OF IT

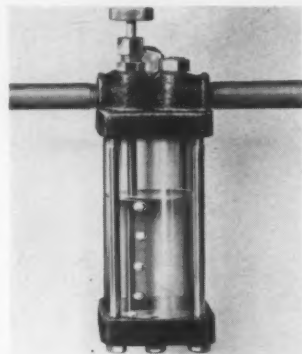
HERE is the liquid drier that even reaches trapped moisture. It gets the unit started in less time... and helps keep it free of corrosion. Thawzone neutralizes acids. Use it in any unit with "Freons", methyl chloride or methylene chloride. Just add 1 teaspoonful ($\frac{1}{8}$ oz.) per pound of refrigerant. Use half as much in hermetics. Every refrigeration wholesaler has Thawzone. Highside Chemicals Co., Clifton, N. J.



Circle No. 48 on Reader Service Card for more information

Sight Feed Bubbler

Product: Sight feed bubbler to control and visually indicate relatively small rates of flow in gas and



air lines, and sediment trap for removing dirt and moisture from the line.

Manufacturer: King Engineering Corp., Ann Arbor, Mich.

Features: Entire flow of gas or air is passed through liquid in a transparent cylinder, where rate of flow is shown by bubbles rising through the liquid. Any desired liquid may be used. Needle valve at top permits selection of any rate of flow from less than 1 bubble per second to approximately 20 c.f.h. Sediment trap is identical to bubbler except that it does not have needle valve, dip tube, or filler plug. Both units feature drain plug at bottom, choice of glass or plastic cylinder, and four tie rods to protect cylinder and permit easy disassembly. Inlets and outlets at sides and rear give a choice of four piping connections.

Circle No. 139 on Reader Service Card

Testing Instrument

Product: 5-in-1 combination of voltmeter, ohmmeter, and ammeter within a single unit.

Manufacturer: Technical Refrigeration Service, New York City.

Sole Distributor: Sealed Unit Parts Co., Inc., New York City.

Features: Offers fast and accurate analysis of appliances up to 2 hp. Eliminates need of carrying five separate meters, and time spent switching from one to another. Tests can be made from amperes to volts without breaking leads. Housed within oak case less than 1 foot square, Tester Model R-50 has a transformer-

FOR Hard-to-Start Jobs

Requiring Low Starting Current

SPECIFY

Century

TYPE RS*

MOTORS



* Single Phase, Repulsion Start, Induction, Brush Lifting Motors

Century Electric Company is celebrating its 50th year in the electrical industry.

Century SERVICE Is Near Any CENTURY Motor Driven Equipment

Satisfactory performance of CENTURY products is assured by more than 200 CENTURY Authorized Service Stations supervised by 28 CENTURY Sales Offices.

1. Facilities for immediate exchange of most CENTURY standard ratings of standard construction are available at CENTURY Authorized Service Stations.
2. CENTURY Authorized Service Stations are qualified and equipped to service and repair any piece of CENTURY apparatus.
3. Genuine CENTURY renewal parts are available at CENTURY Service Stations, CENTURY Parts Distributors and at the factory in St. Louis.

You will find that these rugged, dependable motors meet the starting, accelerating and running characteristics of such equipment as refrigeration compressors, air compressors, stokers, reciprocating pumps, and other hard-to-start loads.

For more than 47 years, Century Type RS motors have given satisfactory service throughout the world. They are available in sizes from $\frac{1}{2}$ to 20 horsepower, in drip proof and splash proof frames.

In addition, Century builds electric motors in a wide range of types and kinds—in sizes from $\frac{1}{6}$ to 400 horsepower for operation on single and polyphase and direct current. Specify Century motors for all your electric power requirements.



CENTURY ELECTRIC COMPANY

1806 Pine St., St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

ALTERNATING CURRENT MOTORS POLYPHASE

Squirrel Cage Induction— $\frac{1}{6}$ to 400 H.P.
Wound Rotor Motors—1 to 400 H.P.
Synchronous Motors—20 to 250 H.P.

SINGLE PHASE

Split Phase Induction— $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$ H.P.
Capacitor— $\frac{1}{6}$ to 20 H.P.
Repulsion Start, Brush Lifting, Induction— $\frac{1}{2}$ to 20 H.P.

DIRECT CURRENT MOTORS $\frac{1}{6}$ to 300 H.P.

GENERATORS

AC, .63 to 250 KVA
DC, .75 to 200 KW

GEAR MOTORS

$\frac{1}{8}$ to $1\frac{1}{2}$ H.P.

MOTOR GENERATOR SETS

AC to DC, AC to AC
DC to DC, DC to AC

Open Protected, Splash Proof, Totally Enclosed Fan Cooled, Explosion Proof.

Ball Bearing motors are factory lubricated for several years' normal service. Bearing housing construction permits easy re-lubrication when unusual service demands it.

Circle No. 49 on Reader Service Card for more information

and AIR CONDITIONING • MARCH, 1951

type meter enabling it to withstand a 300% overload. Instrument's a.c. voltage ranges are 0 to 150 volts and 0 to 300 volts; a.c. current ranges are 0 to 3 amperes and 0 to 15 amperes. Even calibrations are directly on meter, giving accurate readings equally of both high and low ratings. **Circle No. 140 on Reader Service Card**

Ice Crusher

Product: New model - "Kwik Kube" electric ice crusher.

Manufacturer: International

Products Corp., Los Angeles, Calif.

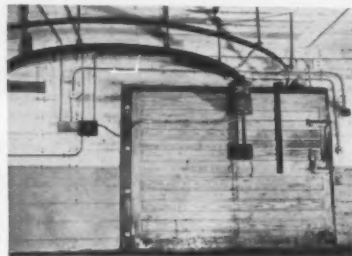
Features: Combine greater capacity with new safety features. Designed in conjunction with Los Angeles Safety Department. Production capacity increased from 30 pounds per minute to 40 pounds per minute, with complete protection to operator. New safety features include a tapered throat to prevent fingers from entering cutting chamber, and a self-regulating feeder. Retains all important features of previous models, including complete adjustment from snow

to coarse with a flick of the finger, sturdy aluminum construction, 1/3-hp G-E motor, and durable nickel-bronze grinding motor.

Circle No. 141 on Reader Service Card

Door Operator

Product: New type automatic heavy refrigerator door operator.



Manufacturer: Robot Appliances, Inc., Dearborn, Mich.

Features: Will open and close large walk-in refrigerator doors automatically from outside or inside by merely touching a control switch with the foot. Leaves both hands free for carrying loads in or out of cooler. Saves time and energy lost in opening refrigerator door manually. Reduces refrigeration cost by keeping refrigerator door closed at all times except when operator is either entering or leaving refrigerated area. Makes it impossible for operator to be locked in refrigerated area.

Circle No. 142 on Reader Service Card

Wire Tacker

Product: Pocket-sized tacker for speedy installations of electrical wiring.

Manufacturer: Heller Co., Cleveland, Ohio.

Features: Speedily staples braid-



Simpson

390

VOLT - AMP - WATTMETER

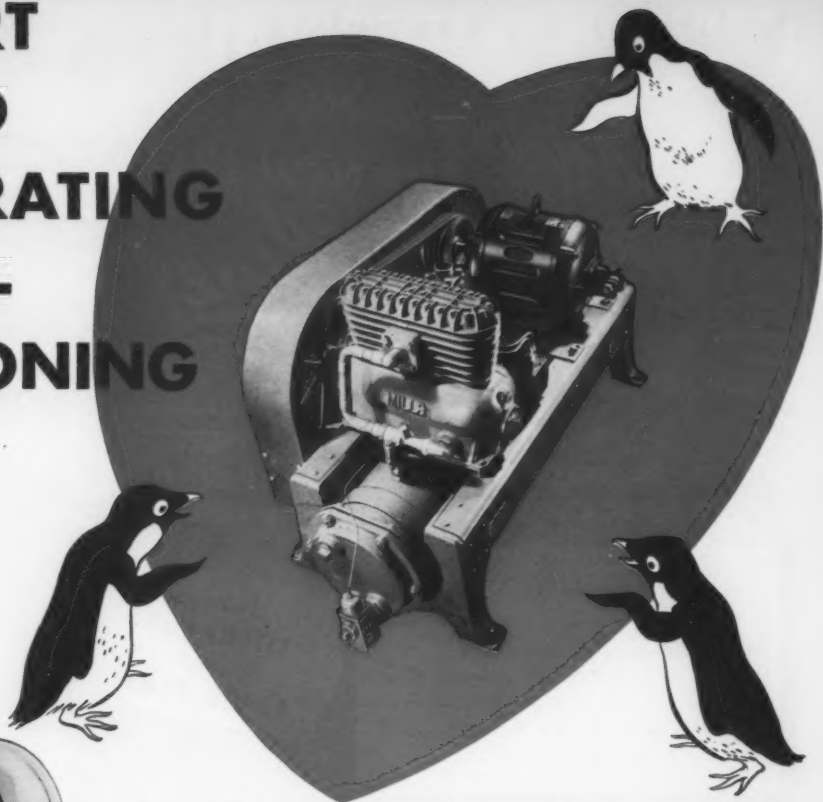
Simpson 390 Volt-Amp-Wattmeter embraces two ranges each of voltage and current providing four wattage ranges which cover practically all types and makes of appliances. Preferred by most servicemen.

RANGES: A. C., 60 cycles—Volts: 0-150, 0-300; Amperes: 0-3, 0-15; Watts: 0-300, 0-600, 0-1500, 0-3000; price with break-in plug and leads, and Operator's Manual \$39.50

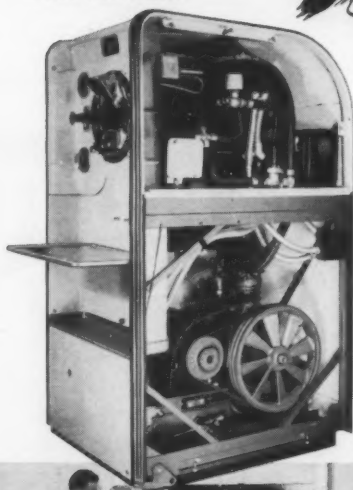
SIMPSON ELECTRIC COMPANY
5200-18 W. Kinzie, Chicago 44, Ill.
In Canada:
Bach-Simpson, Ltd., London, Ont.

Circle No. 50 on Reader Service Card for more information

THE HEART OF GOOD REFRIGERATING AND AIR- CONDITIONING SYSTEMS



Mills 2 H.P. Self-Contained Water-Cooled Mills Condensing Unit in Mills Master Superautomatic 5-Gallon Freezer Model S5020.



The dependable operation of the Condensing Unit is vital to the success of any system of cooling, refrigeration or air-conditioning.

It is this marked dependability of Mills Condensing Units that has been responsible for their continued and growing use by those most experienced in the use of such units.

MILLS Units are compact, sturdy, efficient—made in a range of capacities to meet practically all applications:— $\frac{1}{4}$ to 3 h.p., air-cooled; $\frac{1}{8}$ to 10 h.p., water-cooled; and $\frac{1}{2}$ to 3 h.p., combination air- and water-cooled types.

New Catalog 204-1 is a handy guide to Condensing Unit selection—write for a copy.

MILLS INDUSTRIES, Incorporated

4100 FULLERTON AVENUE

CHICAGO 39, ILLINOIS

Ask for New Catalog 204-1



Typical installation of Mills Compressors. There is an efficient, dependable Mills Condensing Unit for every installation.

Note this bank of Mills Compressor Units. The practice of grouping units is growing rather than distributing them at various points about the location.

MILLS

COMPRESSORS and CONDENSING UNITS

Circle No. 51 on Reader Service Card for more information
and AIR CONDITIONING • MARCH, 1951

Announcing THE NEW 1951

Lipman Line!

BELOIT, WISCONSIN

- ROOM AIR CONDITIONER
- HOME AIR CONDITIONER
- "PACKAGED" MERCHANDISING
- "PACKAGED" COMMERCIAL UNITS

LIPMAN REFRIGERATION DIVISION

Yates American Machine Co.
Beloit, Wisconsin

Gentlemen: I am interested in making money
selling ☐ Air Conditioning, ☐ Refrigeration ...
the Easy Lipman way. Send details.

Company Name _____

Address _____

City _____ State _____

Individual Name _____

Title _____

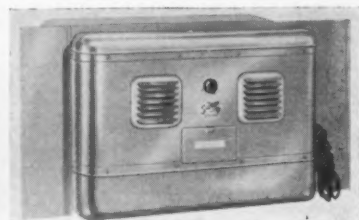
Write for
LITERATURE
and
SALES PLAN

ed, rubber coated, single and double strand wire and hollow tube lines. Front and rear guides circle wire and permit rapid drawing around difficult angles or corners, along baseboards, etc. Uses improved staple made in several colors whose driving points easily penetrate plaster, composition board and wood, with holding power up to 64 pounds. Drives staple to desired depth without marring or injuring wire.

Circle No. 143 on Reader Service Card

Evaporative Cooler

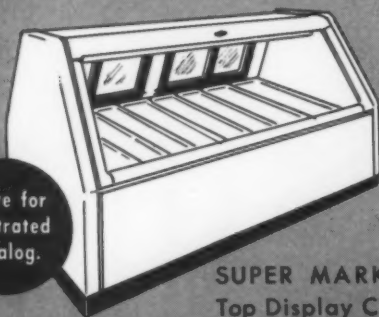
Product: "Twin Junior" window type evaporative cooler for cooling



offices or single rooms.

Manufacturer: Palmer Mfg.

Serving America's Finest Food Stores!



Write for
illustrated
catalog.

**SUPER MARKET
Top Display Case**

...ONE OF 62 DIFFERENT
BALLY MODELS and SIZES

Bally

REFRIGERATED DISPLAY CASES

Bally Case and Cooler Co., Bally, Pa.

Circle No. 53 on Reader Service Card

SELL and PROFIT

with this
Proven
line!



Model OFBE

Frozen Food Case . . . one of the biggest selling refrigerators on the market today. Features controlled refrigeration and the No Frost valve which automatically defrosts.

- 67 years of leadership in the commercial refrigeration field.
- Direct factory financing.
- Exclusive selling features: Floating Air, Coolite and the No Frost valve.
- Strong national advertising.
- A complete line of refrigerators, including: open cases, closed display cases, walk-in coolers, bakery, beer, florist and many others.

A few
territories
open for
top-notch
dealers.



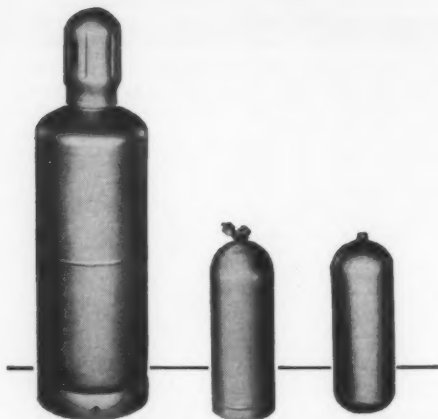
Ed Friedrich Sales Corporation

Dept. CR, 1117 East Commerce • San Antonio, Texas

Circle No. 54 on Reader Service Card

MARCH, 1951 • COMMERCIAL REFRIGERATION

SPECIFY
Prest-O-Lite
 Trade-Mark
CYLINDERS



PREST-O-LITE cold-drawn cylinders for refrigerant gases are available in 5-lb. (rounded bottom or with foot ring), 10-lb., 25-lb., and 35-lb. sizes. You can have 50-lb., 100-lb., 150-lb., or special sizes and designs quickly made to your specifications.


You save money in the long run when you insist on the best cylinders. Fill in the coupon below and mail it today for more information about PREST-O-LITE cylinders that will meet your needs.

For Refrigerant Gases Because You Get...

- ① **Uniform Wall Thickness**—Unusually close tolerances in wall thickness assure you a superior cylinder.
- ② **Long Life**—Years of extra service and added protection against denting, piercing, corrosion, and pitting result from the thicker walls and rugged construction.
- ③ **Light Weight**—You cut transportation costs because there are no extra-thick sections which only add weight without adding strength.
- ④ **Maximum Safety**—All cylinders are tested for leakage with dry air, in addition to standard safety tests.
- ⑤ **Benefit of Years of Experience**—Unsurpassed design and production come from more than 35 years of experience and skill in the development, manufacture and use of compressed gas cylinders.
- ⑥ **More Than Code Requirements**—You know PREST-O-LITE cylinders will never let you down because they're made, tested, and inspected not only in accordance with I.C.C. Specifications but also undergo many rigid tests far beyond these requirements.

LINDE AIR PRODUCTS

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street  New York 17, N. Y.

Offices in Other Principal Cities

In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

The term "Prest-O-Lite" is a registered trademark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS

A Division of Union Carbide and Carbon Corporation
 30 East 42nd Street, New York 17, N. Y.

R11

Please send literature and full information about PREST-O-LITE cylinders for refrigerant gases.

NAME

COMPANY

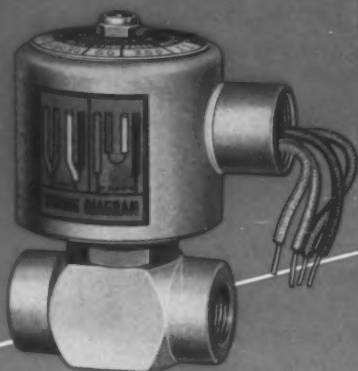
ADDRESS

**MAIL THIS
 COUPON
 NOW!**

SPORLAN SOLENOID VALVE

with *Twice Dipped*
Layer Wound Coil

*does it
again!*

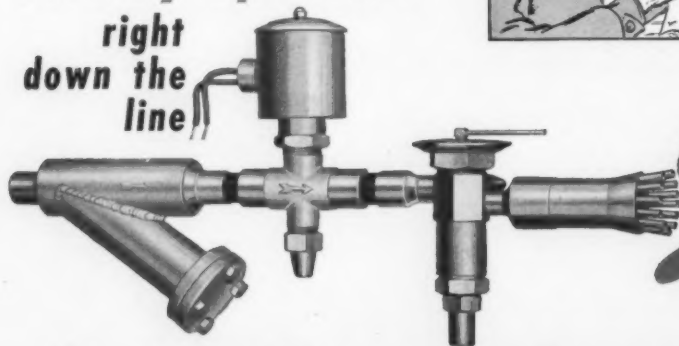


Sporlan manufactures
SOLENOID VALVES • SOLENOID PILOT CONTROLS
MODULATING PILOT CONTROLS • REFRIGERANT DISTRIBUTORS
STRAINERS • CATCH-ALLS
SELECT-A-LEVEL Electronic Liquid Level Controls
and the *Only* THERMOSTATIC EXPANSION VALVES
with FLOWMASTER ELEMENTS and SELECTIVE CHARGES

for **PEAK PERFORMANCE**
on all installations

...buy **Sporlan**

right
down the
line



7525 SUSSEX AVENUE • SAINT LOUIS 17, MISSOURI

Circle No. 56 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION



Sporlan
VALVE COMPANY
SPORLAN
TV

Corp., Phoenix, Ariz.

Features: Direct drive dual blower air cooler for small areas. Completely self-contained and measures only 15 inches high, 21 inches wide, and 12 inches deep. Built-in pump and adjustable air deflecting grilles. Effective cooling capacity increased by air motion from 1500 velocity feet per minute air discharge. Cfm rating is 320. The 4 1/8 gallon capacity water reservoir solves the problem of water connection. A trough type water drip system permits thorough pad coverage and efficient cooling. Weighs only 35 pounds. Window fillers make it adjustable to various size windows.

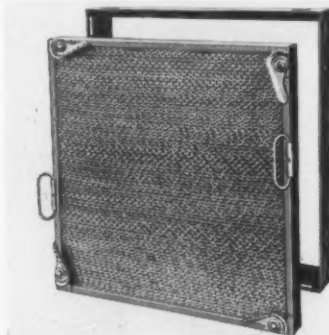
Circle No. 144 on Reader Service Card

Air Filter

Product: New high velocity unit air filter (Type HV).

Manufacturer: American Air Filter Co., Inc., Louisville, Ky.

Features: Made of corrugated strips of fine mesh wire in which the



corrugations taper so that when two strips are placed together they form a series of pyramid shaped pockets. Small ends of the pockets are closed to air flow to eliminate any open air passages through the media. Designed to operate at velocities up to 500 fpm and maintain a uniformly high cleaning efficiency over a wide range of air velocities. Can be serviced in conventional way with washing and charging tanks or reconditioned by washing out the accumulated dust with a hose and spraying with filter adhesive.

Circle No. 145 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

LEE SHELL'S 186% QUOTA TOPS HILL DEALERS

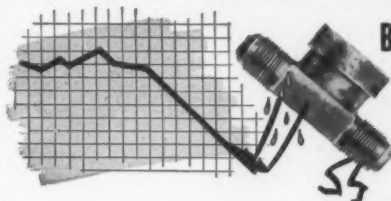
Lee Shell Co. of Chicago has been announced as the winner of the C. V. Hill 1950 sales contest. The firm was presented with a gold plaque by John Staples, the factory's general sales manager, and W. L. Yde, Hill's northwestern district manager, for achieving 186% of its quota for the year.

In addition, each man in the Lee Shell organization was presented with a 17-jewel wrist watch, while Irving

W. Shell and his wife were awarded an all-expense trip to New York City, including a suite at the Waldorf Astoria hotel, where they were wined and dined by factory heads and their wives.

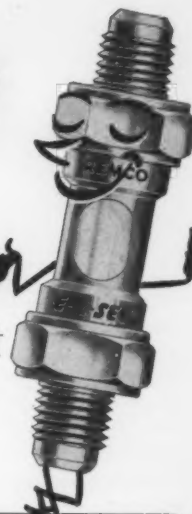
In recognition of his efforts, Mr. Shell was invited to the factory at Trenton, N. J. to become a member of the C. V. Hill advisory board for 1951.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**



By eliminating losses
from leaking
Liquid Indicators

Leak-proof **E-Z-SEE**
pulls up greater profits!



Here's Why!



E-Z-See available in connection sizes 1/8", 1/4" and 3/8"—in male flare both ends; one end female and one end male; or sweat connections to permit soldering without disassembling.

Note how in E-Z-See, unlike in conventional liquid indicators, spring-compensated leak-proof gaskets and 'floating' high-pressure Pyrex glass assure you the following advantages: (1) Perfectly Safe . . . glass is protected from damage by unique slotting arrangement — safe at pressures up to 500 PSI. (2) Positively leak-proof . . . can't leak because springs automatically maintain just the right force to form a positive seal around the glass. (3) E-Z-to see through . . . both sides of the body are open to let in light through the tubular high-pressure gauge glass. No more losses from leaking—here truly is the 100% answer to the industry's demand for a fool-proof liquid indicator.

Send for Literature and Prices

CARRIED IN STOCK BY LEADING WHOLESALERS EVERYWHERE

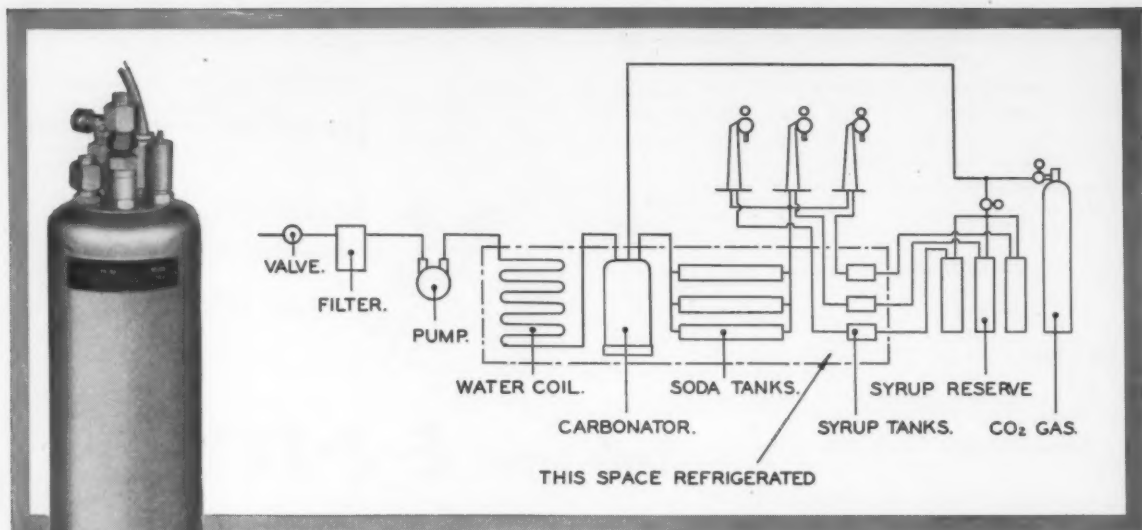
West Coast warehouse stock at: 2103 So. San Pedro, Los Angeles, Calif.
EXPORT DEPARTMENT: Melchior, Armstrong, Dessau—Ridgefield, N. J.



Circle No. 57 on Reader Service Card for more information

Highly versatile Temprite Carbonators

adaptable to all types of installations



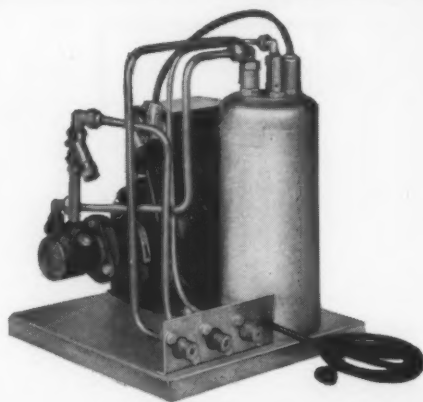
TYPICAL SODA FOUNTAIN installation showing the Temprite Carbonator located within the refrigerated compartment, with the pump assembly remotely located.

The most significant feature of a Temprite Carbonator is its *unusual versatility*. For example, the pump may be installed in a remote location (as shown above) to save valuable space within an existing fountain, bar, vending machine, etc., or the carbonator may be obtained as a complete package mounted with pump, motor and relay assembly, for a fast and easy hookup!

Measuring only 5" O.D. x 15" high, the Temprite is a compact easy-to-work-with unit; actually delivers an amazing 6450 glasses of highly carbonated water from a single 20 lb. tank of CO₂ gas. No purging or venting required! No gas wasted!

Temprite Carbonators are ideal for applications where mechanically refrigerated water or soda water coolers, sweet water baths or cracked ice cooling systems are used.

NOW IS THE TIME to investigate the exceptional profit possibilities with Temprite Carbonators.



(Above) The neat Temprite Packaged Carbonator is a completely self-contained unit. The Carbonator, together with pump, motor and relay assembly, is mounted on a sturdy metal base. Water inlet, CO₂ gas inlet, and soda water outlet lines terminate at a rigid connection panel, along with a power supply cord.

TEMPRITE PRODUCTS CORP.,
P. O. Box 72-B
Birmingham, Michigan

Please send me details on the Temprite Carbonator line.

Company name _____
Address _____
City _____ State _____
Signed _____

"Be right with Temprite"
Temprite
PRODUCTS CORPORATION

P.O. BOX 72-B, EAST MAPLE ROAD
BIRMINGHAM, MICHIGAN

CONTRACTORS

NEWS • ACTIVITIES • PLANS

Officers of New Jersey Association



NEW 1951 OFFICERS of the Refrigeration Contractors Association of New Jersey were installed at a recent party held in the Essex House, Newark, in a ceremony conducted by William Nowels (left, front row), the association's legal counsel. Next to Nowels in the front row are Lee L. Richardson, of Richardson & Richardson Inc., Nutley, president; and M. Dee Petillo, of Tony Petillo Refrigeration Co., Nutley, vice president. In the back row, left to right, are Robert Anderson, of Tri-County Refrigeration Co., Bogota, secretary-treasurer; Anthony G. Dietl, of Dietl & Kraft, Newark, past president and a director; and Harold Rohloff, of Harold Refrigeration Service, Dover, sergeant-at-arms.

TEMPLIN LEAVES COAST CONTRACTOR JOB TO JOIN BAKER OUTLET

Neal S. Templin has announced his resignation as executive secretary of the Refrigeration and Air Conditioning Contractors Association of Southern California and of the Refrigeration Manufacturers Association of Southern California to become associated with the Baker Engineering Corp., Los Angeles, which was recently appointed a prime distributor in Southern California for Baker air conditioning and refrigeration products.

Templin has been executive secretary of the two associations since 1946 and has been in the refrigeration and air conditioning business since 1922, when he started to work

for the York California Construction Co. in San Francisco. That company later merged into the York Corp. in whose employ Templin remained until becoming executive secretary of the two trade associations in 1946.

Don Beck, president of the refrigeration and Air Conditioning Contractors Association of Southern California, has announced the appointment of Ralph M. Westcott as acting executive secretary for the association to succeed Templin.

Westcott is a consulting engineer, specializing in water use and quality control for heat exchange equipment and is widely known in the refrigeration and air conditioning industry, having published a number of technical papers in trade publications. He is a member of American Society

of Refrigerating Engineers, American Waterworks Association, National Association of Corrosion Engineers and National Association of Practical Refrigerating Engineers.

Westcott will continue his activities as a consulting engineer, being employed by the association as its executive head on a part-time basis. Offices of the association have been moved to 1700 South Main St., Los Angeles, 15.

ST. LOUIS CONTRACTORS TO FINANCE SCHOOL

The St. Louis unit of the Heating, Piping, and Air Conditioning Contractors Association has agreed to pay an amount equal to 5% of their gross payroll for straight time to support an apprentice training school for the St. Louis Steamfitters Union.

The agreement was made recently when the steamfitters asked for the school in lieu of the usual welfare provisions in their contracts with the contractors.

Lawrence Callanan, business manager for the union, said the proposed school would teach refrigeration, air conditioning, and work with such metals as aluminum, stainless steel, and brass, in addition to such other subjects as welding, blueprint reading, and drafting.

Callanan estimated that the contractors would put about \$150,000 per year into the school and it would take about 18 months to build up sufficient funds to get the school started.

He said that when the school opens all 1,500 journeymen steamfitters here would be required to spend four hours per week in night classes to learn the latest techniques of the trade. Entrance will be limited to union members, he said.

FLORIDA ASSOCIATION NAMES OFFICERS

New officers and directors of the Air Conditioning & Refrigerating Association of Florida have been elected at the group's annual meeting.

The following men will guide the organization's activities during 1951: J. W. Hendricks, president; E. C. Carroll, vice president; Cecil E. Kirby, treasurer. Directors named were: J. J. Harris, Harry C. Higgins, L. L. Jackson, T. A. Swigert, J. R. Turpin, Jr., and R. B. Wiley, Jr.

What the serviceman should know about VIRGINIA REFRIGERATION products

To Charge a System,
Use Refrigerants
That Are
Consistently Pure,
Consistently Sure...



"EXTRA DRY ESOTOO" (B.P. +14°F.)

"Extra Dry" is the refrigeration grade SO_2 that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

"V-METH-L" (B.P. -10.7°F.)

Virginia Methyl Chloride is made specifically for refrigeration use. Low moisture content, low acidity and narrow boiling range recommend "V-Meth-L" for the most exacting requirements.

"FREON" REFRIGERANTS

"FREON-11"

"Boiling Point"
74.7°F.

"FREON-12"

"Boiling Point"
-21.6°F.

"FREON-22"

"Boiling Point"
-41.4°F.

"FREON-113"

"Boiling Point"
117.6°F.

"FREON-114"

"Boiling Point"
38.0°F.

Virginia Smelting Company is distributor
for Kinetic's "Freon" Refrigerants.

HOW TO APPLY INSULATION AND SOUND-PROOFING MATERIALS

For quick reconditioning jobs on insulated cabinets, cold rooms, or ducts—whether it's a small repair job or a whole installation—try Enamelite, the asphaltic mastic that doesn't have to be heated. Enamelite is equally effective on cork board, Fiberglas, Styrofoam, Celotex. In fact, it sticks to any dry surface and makes an excellent vapor seal. Easy to use. Mix the liquid and powder in the proportions marked on the label, then spread it or spot it on the insulation.



ASK YOUR WHOLESALER OR WRITE

VIRGINIA SMELTING COMPANY

WEST NORFOLK

PHILADELPHIA • NEW YORK • BOSTON
CHICAGO • DETROIT • ATLANTA



VIRGINIA

Refrigerants

Circle No. 59 on Reader Service Card for more information

MARCH, 1951 • COMMERCIAL REFRIGERATION

FREE HEAT . . .

Continued from page 73

the normal value, this switch closes and operates a buzzer and an indicator light indicating which transmitter is in trouble.

All air is conducted through ducts to and from the transmitters and these ducts were made an integral part of the regular ventilating system of the building. An exhaust fan common to both transmitters is used for discharging the waste heated air either to the outside or into the building system. This exhaust fan motor is electrically connected to the starting switches of the two transmitters. Turning on either transmitter turns on the exhaust fan.

Cuts Fuel Costs to Bone

This installation was placed in complete operation a year ago and has given very satisfactory performance. It was seldom necessary for the boiler to furnish any supplementary heat in spite of occasional temperatures of 10 degrees above zero and at times of high winds, even though the building is located in the middle of a large open field.

In fact, so efficiently does this heating system perform that an inspector of the local gas company made a special trip out to the WFMJ transmitter station one day to check on how it was possible to heat such a building for a small fraction of the cost of heating an even smaller building.

His surprise at the transmitter's ingenious heating system changed to sheer astonishment when station supervisor W. L. Werden pointed out to him that this low gas bill covered the fuel consumed by the building's hot water heater and the heater which heats the detached four-car garage, in addition to that used by the steam boiler in the main building.

COMPRESSORS IS SUBJECT OF LOS ANGELES ASRE

H. D. Moore, district engineer of Worthington Pump & Machinery Corp., presented a comparison of hermetic vs. open type refrigeration compressors at the January meeting of the Los Angeles Section of ASRE.

**BUY FROM YOUR
REFRIGERATION WHOLESAKER**

Rubatex Insulation Hardboard best for low temperature insulation

After more than three years and 42 Dry Ice Railway cars, Mathieson Chemical Corporation, Baltimore, Md., expresses its satisfaction with RUBATEX Hardboard in this way: "We buy RUBATEX because of the low initial, 'K' factor and because of its inherent ability to fight moisture pick-up. The last is per-

haps more important since we want these cars to last some 8 to 10 years and the initial rated 'K' factor is not as important as its efficiency later on. In other words, we feel that the higher initial cost is more than paid for by its lower evaporation loss and greater life. The cars insulated with RUBATEX are our most efficient cars."



"K" FACTOR 0.21

ZERO MOISTURE PICK-UP

NO VAPOR BARRIER NEEDED

LONG LIFE

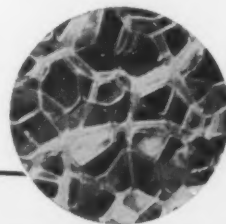
LOW MAINTENANCE COST

RUBATEX Insulation Hardboard is an expanded, synthetic rubber compound. Its cellular structure consists of a myriad of minute, individually sealed, balloon-like chambers, each containing inert nitrogen having the same qualities as the best known heat insulator—its "K" factor of 0.21 remains constant.

RUBATEX, manufactured in board form is light weight—4½ lbs. per cubic foot, has excellent structural strength—compressive strength 60 lbs. per sq. in. It does not crumble or settle, it resists oxidation and is rot, vermin and termite proof.

Seeking long-term efficiency for your low-temperature insulating problem, you will find RUBATEX Insulation Hardboard your best buy. Write for Design Data Book RBH-1-50, Great American Industries, Inc., RUBATEX DIVISION, BEDFORD, VIRGINIA.

CLOSED CELLS shut out heat, cold and moisture. Photo-micrograph of a section of RUBATEX Insulation Hardboard shows the dense structure of individually closed cells which give this product its exceptional insulating properties.



RUBATEX[®] INSULATION HARDBOARD

Circle No. 60 on Reader Service Card for more information

COMMERCIAL *Refrigerator* SALES NEWS

13 MORE DISTRIBUTORS JOIN NCRSA RANKS

Addition of 13 active (distributor) members and two associate (manufacturer) members to the roster of the National Commercial Refrigerator Sales Association in recent weeks has been announced by NCRSA headquarters.

The new distributor members include:

Alex Baker's Elmira Store Fixture Co., (McCray), Elmira, N. Y.; Bender Electric Co., (Tyler), Carrolltown, Pa.; Central Store Equipment Co., (McCray), Paterson, N. J.; Four Bros. Refrigeration Mfg. Co., Philadelphia; Governed Air, Inc., (Hussmann), Utica, N. Y.; Haggerty, Inc., (Sherer), Tampa, Fla.; Hill Sales & Service Co., (Hill), Asbury Park,

N. J.; Al Mahan's Commercial Division, (Hussmann), Omaha, Neb.; Tom Quinn, (Hill), Erie, Pa.; Savrin Refrigerator Co., Philadelphia; Dell Smith Co., (Hussmann), Los Angeles, Calif.; Super-Cold Midwest Co., (Super-Cold), Chicago; Super-Cold Northwest Corp., (Super-Cold), Portland, Ore.

New associate members are Coldin Cabinet Co., Inc., New York, N. Y.; and Tyler Fixture Corp., Niles, Mich.

NCRSA REPORTS ON SERVICE PRACTICES

A comprehensive report on refrigeration service departments of NCRSA members, giving details of the service provided to customers, was issued recently by NCRSA head-

quarters in Philadelphia.

The report included information on guaranteed service, service contracts, length of time free service is provided, charges for service, compensation for service men, etc.

It also covered the manner in which NCRSA members handle trade-ins, and gave information on current practices in connection with operational problems.

YEAR-END FIGURES ON SALES TO BE ISSUED

A survey on 1950 sales, inventories and accounts receivable, showing the percentage change over 1949, is now being conducted by National Commercial Refrigerator Sales Assn.

15 ICE CUBE MAKERS FOR DETROIT HOSPITAL

Fifteen automatic ice cube maker machines recently have been installed in Harper Hospital, Detroit, replacing a basement ice plant formerly used by the hospital. The units, located in utility rooms throughout the institution, were sold by James & Roach, Detroit Carrier dealer.

MORE Service— LESS Servicing!



Model I-131



With SWEDEN-

TODAY—after more than 17 years' leadership in the ice cream freezing and dispensing field—SWEDEN Speed Fountain Freezers are still "years ahead," giving owners consistent, trouble-free service.

It's an old story—of advanced design and superior engineering, of pioneer testing and development. Automatic freezing controls for simple operation; sturdy construction and accessibility of all parts for quick cleaning are standard SWEDEN features that add up to MORE and LONGER service . . . LESS upkeep expense.

Dispensing Soft Ice Cream, Frozen Custard and other long-profit specialties with amazing speed, SWEDEN eliminates bulk shrinkage, requires less cream weight-per-serving. Dipping, handling and scraping are eliminated; both food and labor costs slashed 50% and more.

And remember—the SWEDEN line is really complete. There's a model to meet every need, every budget. SWEDEN's model variety adapts the machine to the operation, not vice-versa. SWEDEN Speed Fountain Freezers are profitable to own and operate . . . investments that pay for themselves out of EXTRA profits!

For more information, write today to:

SWEDEN FREEZER MANUFACTURING CO.
DEPT. R-3 SEATTLE 99, WASHINGTON

SWEDEN SPEED FREEZERS

the
FOUNTAIN
FREEZER

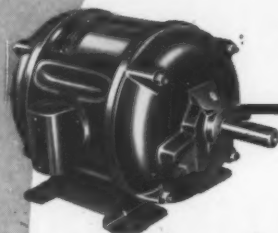
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Wagner
ELECTRIC MOTORS
...the choice of leaders
in industry

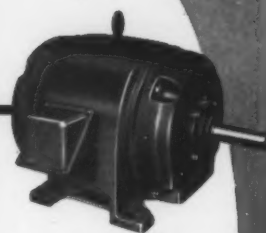
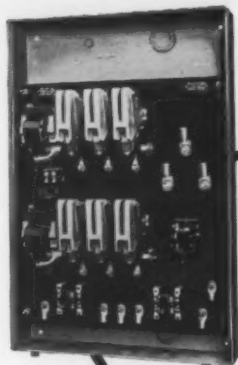
Wagner

Increment Motor and Starter Combination

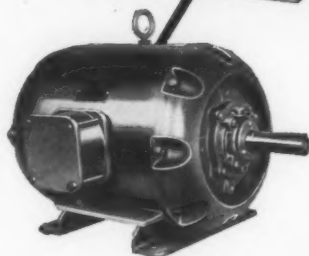
...most economical for applications where
reduced starting current draw is required



Open General Purpose Motor
Normal or High Torque



Splash-Proof Motor
Normal or High Torque



Explosion-Proof Motor
Normal or High Torque



Totally-Enclosed
Fan-Cooled Motor
Normal or High Torque

easy does it...

You can meet locked current restrictions by limiting the in-rush of motor current during the starting period with the low cost Wagner Increment Motor and Starter "Package". This motor and control combination is excellent for use on any application where reduced current draw at start is required.

Wagner polyphase motors, both normal and high torque, are wound with two circuits in parallel. When the increment starter is operated, its first magnetic contactor closes and puts half of the motor winding across the line, so that the motor draws only approximately 60% of its normal locked rotor current from the line. At the same time the circuit is closed to

an adjustable pneumatic timer and at the completion of the timing cycle the second magnetic contactor closes, putting the second half of the winding in parallel with the first.

The Wagner Increment "Package" is economical to install, and makes possible the use of high grade magnetically operated equipment at a low purchase price.

Why not investigate this Wagner combination today? Write for full information.

Consult the nearest of Wagner's thirty-one branch offices, in all principal cities, for expert advice on your motor application problems.

Wagner
Electric Corporation

1891 **WE** 1951

WAGNER ELECTRIC CORPORATION
6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES
AUTOMOTIVE BRAKE SYSTEMS - AIR AND HYDRAULIC

BRANCHES IN 31 PRINCIPAL CITIES

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and AIR CONDITIONING • MARCH, 1951

MAY, 1950

Commercial Refrigeration

AND AIR CONDITIONING



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

SPECIALIZED ISSUES

"SELLING THE 1951 MARKETS"

APRIL — Food Store Refrigeration

MAY — Refrigeration in Industry

JUNE — Food Service Refrigeration

LAST YEAR the April, May and June issues of **COMMERCIAL REFRIGERATION** were acclaimed as the most outstanding issues, from an editorial standpoint, that had ever appeared in the commercial refrigeration and air conditioning field. For the first time, a magazine analyzed the important fields in which air conditioning and commercial refrigeration equipment could, and should, be sold.

This year the markets have changed. In fact, the whole business has changed. We are in a new type of economy, and all sales thinking and sales approaches must

be new. The three 1951 issues which we are planning for April, May and June take these changes into consideration.

Where are the 1951 markets? How can our readers reach them? What can be sold to defense plants and government installations? These and similar questions are bothering our readers. We are attempting in these three special issues to provide some of the answers. If anything, the readership of these issues should be even higher than that of the sensational issues of last year. Plan to be in these vital issues.

COMMERCIAL REFRIGERATION AND AIR CONDITIONING

1240 ONTARIO STREET, CLEVELAND 13, OHIO

Kramer Consolidates 4 Plants Into 1

COMPLETION of a major expansion and consolidation program has been announced by Kramer Trenton Co., Trenton, N. J., manufacturer of heat transfer equipment for the refrigeration and air conditioning field.

Manufacturing operations previously spread through four separate plants in Trenton now have been integrated into an expanded production activity at Kramer's Olden Ave. plant, with a total increase of 33% in floor space and an immeasurable increase in production efficiency.

Laboratory facilities have been increased by 50%, including five new test rooms capable of maintaining any desired temperature and humidity conditions.

Each department has been completely rearranged in accordance with the latest developments in plant layout and material handling procedures to provide optimum plant utilization. Additional equipment and machinery has been installed.

Each department is completely self-contained to facilitate smooth flow of work. There are four departments, for instance, making different types of finned surface, and each department has its own benders, pressers, assemblers, welders, expanders, testers, and dehydrating oven.

Many of the tools are of special design to fit definite operations. These tools were designed and developed by the Kramer engineering staff and machine shop. This includes such equipment as high speed air-operated automatic hydraulic expanders and automatic air-operated tube benders. The tube benders are of various types, bending from one to four tubes at one time, or automatically bending a continuous coil of any number of legs.

All dies used in the plant were made in the Kramer machine shop, including complicated step dies used in fabricating finned surface.

Special dehydrating ovens were designed by the company's own engineering department. Each oven can dehydrate up to 60,000 sq. ft. of surface, and is automatically controlled.

Many operations are controlled by compressed air. To test for leaks, coils are subjected to 300 pounds of air pressure and submerged under water.

The views on this page show some of the key operations in the new Kramer production picture.

▼ Overall View of Plant



▼ Automatic Tube Bender



▼ Assembly Line



▼ Dehydrating Oven



▼ Test Tank



YOU MAKE MORE PROFIT



...with **THESE** oils

Every can of *Texaco Capella Oil* is full of satisfaction and economy for your customers, and brimful of profits for you—whether dealer, distributor, or service engineer. Here's what Texaco offers:

For your customers — *Texaco Capella Oils* are carefully manufactured to assure trouble-free compressor operation. These exceptionally stable oils resist oxidation, and keep compressors clean—free from carbon, gum and sludge formations. In addition, *Texaco Capella Oils* have very low pour tests, are moisture-free, and do not react with refrigerants.

They keep compressor efficiency high.

For you—*Texaco Capella Oils* build repeat business and bring in new business. Available in every needed viscosity—in 1-quart, 1-gallon, and 5-gallon containers—*Texaco Capella Oils* are approved by leading compressor manufacturers. Growing lists of satisfied customers prove these oils are business-builders. Let *Texaco Capella Oils* work for you.

The Texas Company, 135 East 42nd Street, New York 17, N. Y.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



TUNE IN . . . TEXACO presents MILTON BERLE on television every Tuesday night. METROPOLITAN OPERA radio broadcasts every Saturday afternoon.

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MARCH, 1951 • COMMERCIAL REFRIGERATION

THE PRACTICAL REFRIGERATION APPLICATIONS MANUAL

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

"I SHALL appreciate it very much if you will help me with this problem.

"I have been called upon to refrigerate a walk-in freezer measuring 6x8 feet and having an interior height of 6 feet 5 inches. Walls, ceiling, and floor are insulated with 8 inches of rock wool insulation.

"This room will be used for storing meats and food in quantities no greater than 250 pounds during any 24-hour period. Temperature is to be held at zero to 5 F.

"We have a 1-hp Freon air cooled compressor unit. We want to use sharp freeze stand assembly plates. Can you tell me the dimensions and number of plates to use, size and type expansion valve, kind of switch, and any other small details which may come to your mind?

"Also, would it be preferable to install a blower fan in this box?"

SOLUTION

IN regard to your problem concerning recommendations for equipment to be used with a walk-in freezer cabinet, we would suggest the following specifications.

Our estimate of the hourly refrigeration load for heat leak, service load and storage load, operating the condensing unit on an 18 hour out of 24 hour basis would be 4300 Btu.

You say in your letter that 250 pounds of meat and food will be stored at a time in 48 hours. We assume you mean that the turnover will be a 48-hour period. For satisfactory freezing results the freezing period should be not over 8 hours at the most. A faster freezing time would be more desirable but would necessi-

tate the use of much larger equipment.

Freezing 250 pounds in 8 hours would give an hourly load for freezing in the 8-hour period of 6500 Btu, or a total 8-hour load of 10,800 Btu per hour, and a 40-hour load of 4300 Btu per hour after the freezing operation is completed. This would require the use of a 2-hp air cooled condensing unit. The unit would run continuously during the 8-hour freezing operation and about 40% of the time during the remaining 40-hour storage period.

Six plates approximately 60x24 inches would be required for the freezing operation and the general storage refrigeration.

The use of a fan, particularly during the freezing operation, would add materially to the efficiency of the cooling. The fan could be automatically operated or, preferably, manually operated during the freezing period. The fan should be located to direct the air in the cooler over the freezing racks, but high velocities should be avoided to eliminate burning or drying out of the products.

The plates can be installed in series with a 1-ton capacity expansion valve installed at the bottom plate with the suction line connected to the top plate in the series.

If you wish to use the 1-hp condensing unit which you now have, use it with a second 1-hp condensing unit hooked up so that each unit operates on three plates, with each of the two series of plates being equipped with a 1/2-ton expansion valve. Both units could be operated during the freezing operation, with one unit handling the load during the storage period.

The system can be operated with low pressure controls or thermostatic controls as you prefer.

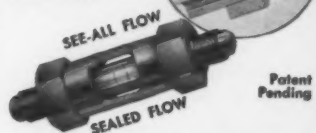
**BUY FROM YOUR
REFRIGERATION WHOLESAKER**

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NEW Positively Leakproof!
DIAPHRAGM PACKLESS

SEALFLO
LIQUID INDICATOR

Greatest Refrigeration
Parts Development
Since the Diaphragm
Packless Valve



Patent
Pending

Diaphragm-sealed, no packing to leak, no springs to weaken, Sealflo saves on service calls, liquid losses. Pyrex gage glass floats, fused at ends to flexible alloy diaphragm that's sealed to viewing tube. Magic Line viewer.

Four practical sizes . . . see your
wholesaler. Write for literature
and prices.

Fine PRODUCTS CO.

185 N. WABASH AVE., CHICAGO 1, ILL.

You can be
SURE with
MADDEN
Duo-Test
DRIERS

Top quality, one-piece copper shell drier, silver solder construction, with monel fine-mesh filter at inlet and outlet. Madden Duo-Test Driers are charged with finest refrigeration grade, dust-free silica gel. Non-refillable types in 3, 6, and 9 cu. in., and refillable types in 12 to 50 cu. in. capacities.

Always be sure—with the complete Madden line of fittings, driers, strainers, charging lines and accessories.

Send for Catalog E-3

MADDEN BRASS PRODUCTS CO.
1111 N. FRANKLIN ST. CHICAGO 10, ILL.

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Make your operation more efficient...more economical...more profitable with

TECHNIFLEX

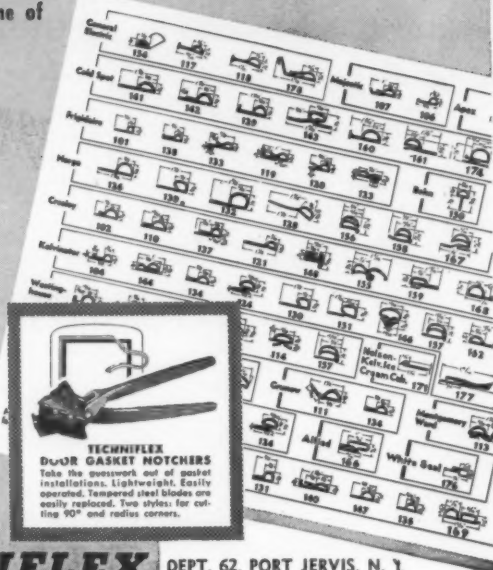
REFRIGERATOR DOOR GASKETS

the most complete line of
replacements
gaskets

A door gasket for almost every household refrigerator. Made of natural rubber to meet the most rigid specifications of nationally known appliance manufacturers. Non-staining, odorless, non-toxic, oil resistant, weather and tear resistant for long life.

Discuss your refrigerator replacement problems with us. Let us show you why "quality and Techniflex" mean the same thing. When your profits depend on quality...it pays to depend on Techniflex.

ask for complete illustrated catalog



TECHNIFLEX

DEPT. 62, PORT JERVIS, N. Y.

out
in
front

JARROW

REFRIGERATOR

DOOR GASKETS

AND ACCESSORIES

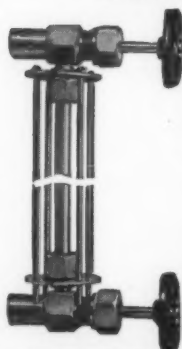
JARROW PRODUCTS
130 W. LA SALLE ST., CHICAGO 10

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SHANK

REFRIGERATION PRODUCTS

Provide maximum service
under toughest operating
conditions.



RELIEF VALVES

For Ammonia and Freon. One piece body design—rust-proof finish. Internal construction—stainless steel—will not corrode. Positive relief action. Pressures from 75 to 400 lbs.

See Your Jobber—or Write Us for Prices.

CYRUS SHANK COMPANY
631 W. Jackson Blvd., Chicago 6, Ill.

ALL-STEEL GAUGE SETS

All-Steel Construction. Automatic shut-off of liquid in case of glass breakage. Composition packing rings give long life, no-leak seal.



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MARCH, 1951 • COMMERCIAL REFRIGERATION

ABOUT PEOPLE . . .

Continued from page 41

years old. He had been active in the York organization for more than 50 years, including 10 as president and 10 as board chairman. During World War II he gained renown as the organizer of the "York Plan", a project which mobilized and integrated all the industries in the York area for war production purposes. He was a past president of ASRE and of Refrigeration Machinery Association.

Lauren E. Seeley, dean of the College of Technology and director of the Engineering Experiment Station, University of New Hampshire, has been elected 1951 president of The American Society of Heating and Ventilating Engineers, it was announced at the



57th annual meeting of the Society in Philadelphia. Dean Seeley succeeds Lester T. Avery, of Cleveland. Other officers elected are: First vice president, **Ernest Szekeley**, president of Bayley Blower Co., Milwaukee; second vice president, **Reg F. Taylor**, consulting engineer, Houston, Tex.; treasurer, **Howard E. Sproull**, division sales manager, American Blower Corp., Cincinnati.

James R. Leavell has been elected a director of Seeger Refrigerator Co. to fill the vacancy created by the resignation, due to ill health, of J. H. Dennedy, who served as a director as well as consulting engineer of Seeger's Evansville division.

Richard H. Thomas, founder of Hamilton-Thomas Corp., Hamilton, Ohio, and one of the pioneers in air conditioning contracting work, died recently at the age of 87. As a partner in a mechanical contracting firm specializing in air conditioning, he supervised such "first" air conditioning installations as the Chicago Public Library, J. P. Morgan & Co., Library of Congress, and Congress Hotel. Although early air condition-

ing was concerned largely with ventilation and the removal of odors, he obtained many basic patents involving cooling, air cleaning, humidification and dehumidification.

Frederick G. Riedel has been appointed chief engineer of United States Air Conditioning Corp., Minneapolis, and will be in charge of design, development and research activities. Riedel was formerly chief engineer and works director of research at the Holyoke Works of Worthington Pump & Machinery Corp. He has also been associated with Houde Engineering Corp. of Buffalo, and with Carrier Corp., in Newark, as research engineer.

David C. Prince, vice president of General Electric Co., has been named by Ralph J. Cordiner, G-E president, to the president's staff, with special duties as assigned. **Harry A. Winne**, vice president in charge of engineering policy, has been assigned responsibility, formerly held by Prince for the G-E General Engineering Laboratory at Schenectady. **Ernest E. Johnson** has been named to the newly-created post of general manager of the laboratory.

Advancement of **Frank C. Hawk** to general sales manager and **Norton R. Miller** to assistant general sales manager has been announced by Cecil Boling, president of Cecil Boling Co. of New York, representatives of Bush Mfg. Co. and the Heat-X-Changer Co. Hawk was formerly associated with the York Corp., Peerless of America, Chrysler Airtemp and Worthington Pump and Machinery Corp. He has been a member of the Boling organization for seven years in the New York metropolitan area. Miller has been associated with United States Air Conditioning Co. as eastern district sales manager, Trane Corp. as sales engineer, and with Chrysler Airtemp.

Harry V. Witherspoon of Baltimore has been appointed Bell & Gossett Co.'s industrial representative in the Baltimore area. Witherspoon formerly was in charge of service for Chrysler Airtemp division for eastern seaboard and maritime installations.

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WASTED BEER? LOST PROFITS?



**NOT WITH LA CROSSE
DIRECT DRAW
EQUIPMENT**

**REFRIGERATED FAUCETS KEEP
BEER AT IDEAL TEMPERATURE
FROM KEG TO GLASS!**

AT NO EXTRA COST

Positive continuous refrigeration right up through the faucets keeps beer at the proper temperature. . . . No more wasteful, excessive foam, morning draw-off, etc.; . . . You save those wastes expected of ordinary draw equipment.

THIS PRODUCT SELLS—INVESTIGATE!

LA CROSSE COOLER COMPANY

2814 Losey Blvd., So. La Crosse, Wisconsin

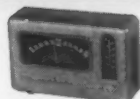
Export Representatives: Melvin Pine & Co., 80 Broad St., New York, N. Y.

Cable Address: Eximport.

TO CHECK RELATIVE HUMIDITY REMEMBER

**Bendix
Friez**

**MAKES the RIGHT INSTRUMENT
at the RIGHT PRICE for EVERY JOB!**



**Model 185 Hygrodiol
Precision Humidity and
Temperature Indicator**

Hand-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1½" deep.



Model 594

Hygrothermograph

The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.



**Model 550
Sling Psychrometer**

Manufactured to U. S. Weather bureau specifications. Thermometers graduated in 1° increments from -20° F to +120° F, or -35° C to +49° C.



Model HA/2

Hand Aspirated Psychrometer

Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.



Model 573

Motor Aspirated Psychrometer

Designed to determine wet and dry bulb temperature with laboratory accuracy—Motors supplied for use on 115 V., 50 cycles or 60 cycles.



Model 160

**Portable Humidity and
Temperature Recorder**

3" x 5" charts, 10 or 30 hour records. Modern design... handy for small space and difficult locations... built to meet unusual conditions.



Model S/1

Pocket Sling Psychrometer

A small, low cost instrument. Thermometers graduated in 1° increments from +35° F to +110° F. Furnished complete with case and psychrometric slide rule.

FRIEZ INSTRUMENT

DIVISION OF

1340 Taylor Avenue
Baltimore 4, Maryland

Export Sales: Bendix International Division,
72 Fifth Avenue, New York 11, N. Y.



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**CLEANABLE
WATER-COOLED
CONDENSERS**

More Efficient Double-Tube
Counter-flow Design

1/2 to
25-Ton
Capacity

Acceptance in the field is rapidly changing to "Demand" for these efficient, more economical Cleanable water-cooled Condensers. Owners and service men prefer the "new unit" efficiency that can always be maintained by a simple cleaning process. Brass headers, machined and brazed.

Write for Catalog and Prices
WHOLESALE IN PRINCIPAL CITIES

Halstead & Mitchell
BESSEMER BLDG. PITTSBURGH 22, PA.

FORMER JOBBER AIDE SELLS PRESERVATIVE LINE

M. F. Reno, formerly manager of the Indianapolis branch of F. H. Langsenkamp Co., refrigeration supplies wholesaler in Indiana and Kentucky, has been representing the "Staminit" line of preservatives and protective finishes for floors, furniture, bar tops, and similar applications, since leaving the Langsenkamp organization several months ago.

Prior to his new association, Reno had been connected with the commercial refrigeration industry for more than five years, and while at present operating in another field he is leaving the way open for a possible return to commercial refrigeration activities.

REPRESENTS B & G

The Ramsay Pump & Supply Co. of Pittsburgh has been appointed industrial representative for Bell & Gossett Co. products in the Pittsburgh area.

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THE LARGEST COLDEST unit in the world designed for low-temperature research is now in operation at Massachusetts Institute of Technology. Designed and built by Dr. Samuel C. Collins who is shown at right above with Dr. Robert Cavileer of the M.I.T. research staff making adjustments on the machine, the new "cryostat" contains 25 cu. ft. of space in an area 30 inches in diameter and 3 feet deep. It can cool its contents to -452 F., within 7 1/2 degrees of absolute zero, and hold them there indefinitely. The machine operates by compressing, regeneratively cooling, and then expanding helium gas until a portion of the gas turns into a liquid. Initial use of the cryostat will be in fundamental research on the properties of metals at extremely low temperatures, in the hope of obtaining information which will in turn be useful in designing metals for greater strength at conventional temperatures.

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TWO NEW REFRIGERATION STANDARDS APPROVED

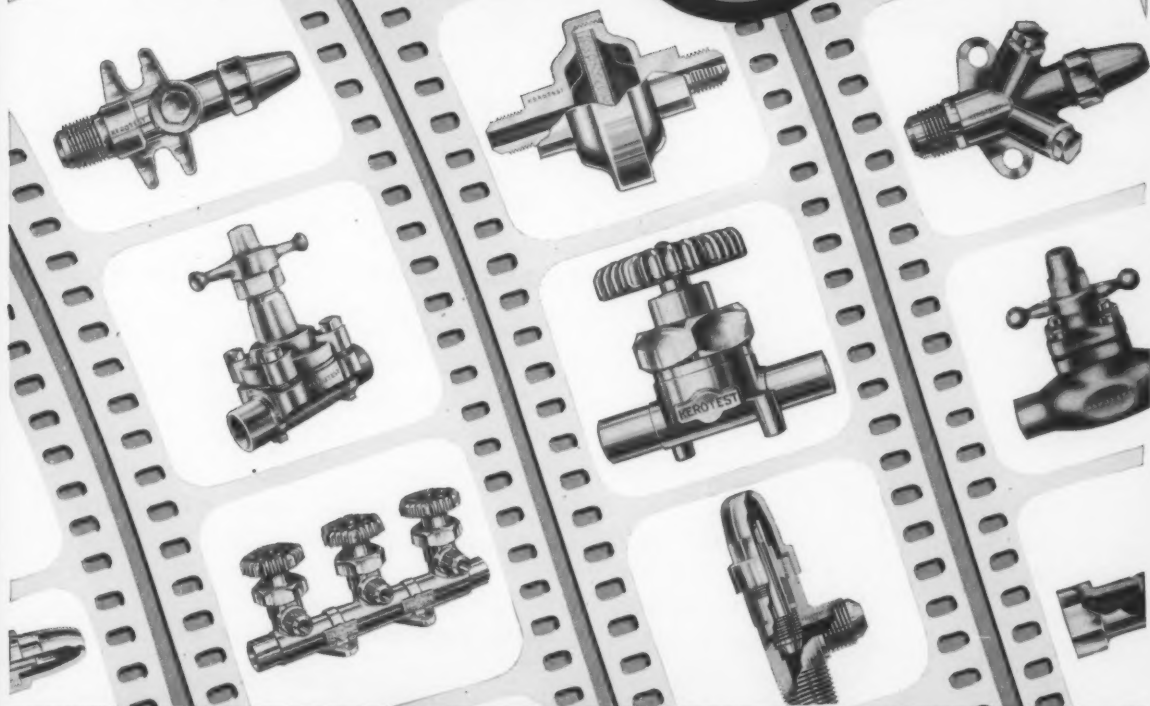
Two new standards for mechanical refrigeration have been approved by the American Standards Association. One is the American Standard Recommended practice for Mechanical Refrigeration Installations on Shipboard (B59.1-1950) and the other is the American Standard Method of Rating and Testing Refrigerant Expansion Valves (B60.1-1950).

The American Standard for refrigeration installations on shipboard is a guide for the design, construction, installation, operation, tests and inspection of mechanical refrigeration equipment for the extraction of heat aboard merchant vessels.

The second American Standard covers methods of rating and testing thermostatic and constant pressure expansion valves for use in refrigerant systems carrying volatile refrigerants. It specifies the equipment and procedure to be used in testing and rating, lists the type of data to be recorded and gives illustrations.

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MARCH, 1951 • COMMERCIAL REFRIGERATION

THE SERVICE MAN'S DEPARTMENT

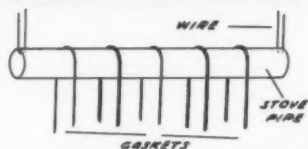
HERE'S HOW!

Edited by
Warren W. Farr

Preventive Maintenance Means More Profits

Generally this time of year service and installation work slows down a bit—so it's a good time of year to go out calling on customers and sell them on a program of preventive maintenance. You won't sell the idea to every customer, of course, but if you work at it you'll get enough extra business to make it pay off quite well.

*I do it
this way...*



WE NOTICED in our shop that refrigerator door gaskets will retain a permanent wrinkle if they are not put away very carefully.

In our shop, we solved this problem by building a "rack" which uses a piece of stovepipe as the "hanger," and arranging all of our door gaskets on this device. The sketch above shows how it works.

We made the rack rather high, so that the gaskets could hang straight. This means that the top of the rack will be fairly close to the ceiling in most shops.

H. Bronnekant, New York City

Preventive maintenance, of course, is just another term for service contracts. It means that for a nominal monthly charge you'll make regular checks of the customer's equipment, and catch minor troubles before they get to be major ones.

Here's what a check-up service of this sort might include:

Check compressor efficiency, belt tension, clean the condenser (on air-cooled machines), oil and check

motor control to see that it's working properly, check expansion valve for proper functioning, check cabinet and evaporator temperatures.

Such accessories as high-pressure cut-out switch, pressure relief valve, two-temperature valves, strainer, oil separator, water valve, dehydrator also should be carefully checked. And on water-cooled systems, remember to check the condenser.

Check the condenser by removing the drain line from the condenser to sewer and holding in an upright position with the machine shut off. Water will collect on the top of the tube. Watch for bubbles in the water; if they appear, it would indicate that refrigerant is escaping and that there is a leak in the condenser.

On multiple systems, also check two-way hand valves for leaks and mechanical defects.

Filter Moistener

A glue-glycerine-water solution makes a good moistening material for filter bases such as are used in air conditioning and heating systems. Use proportions of 0.2% glue and 50% glycerine. When filters coated with the solution become dirty, they can be washed in cold water and a fresh solution applied.

How to Handle Ammonia Safely

Practically all liquids expand on heating. If a fire is built under a skin-full boiler, it eventually ruptures. Similarly, a pipeline full of ammonia, if closed at both ends and heated, ultimately bursts. So where a long liquid-ammonia line may contain trapped ammonia, it is customary to install a safety valve.

Since it is easier to repair refrigerating equipment when it is free from ammonia, many plant operators make it a practice to empty the charge into cylinders. If the cylinder is not

weighed, it is almost certain to be overfilled, and a temperature rise often bursts a cylinder.

A less convenient alternative is to store liquid ammonia in the receiver and lower coils of the evaporator while work is done on compressor and expansion system. Conversely, ammonia can be stored in the liquid receiver and expansion system during

*I do it
this way...*



HERE is a little gadget I have found useful in starting small and hard-to-reach screws.

It is made of a metal or a plastic thimble, and a small nail flattened on the end.

Saw off the nail about an inch from the point, and flatten the sawed-off end. Insert the pointed end into the plastic thimble. A metal thimble can be used for this purpose, in which case the nail should be soldered to it.

The "blade" or flattened end of the nail should be beveled, so that it will fit small screws properly.

Dick Savage, Duluth, Minn.

condenser repairs.

Regarding inflammability, numerous critical examinations and fire reports reveal that fire is caused by ignition of oil-ammonia mixture—not by ammonia alone! Ammonia leaving the high side of a refrigerated compressor is normally saturated with oil from compressor itself. Since the high side of a refrigerating plant is particularly susceptible to leakage, it is natural that ammonia oil fires occur with some frequency.



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• Refrigerator owners are mighty impatient. And understandably so when perishable food is at stake. Every minute counts.

That's where you can build up your service business with *jiffy-service*—the Aerovox way. You can make every minute count, because: (1) Aerovox listings indicate correct Exact-Duplicate or Universal Replacement. If motor can't be identified, the Aerovox Capacitor Selector indicates required capacitance. (2) The Aerovox Emergency Capacitor with correct capacitance plugged in, gets the motor going. (3) At your convenience, pick up and install an Aerovox capacitor. That's *jiffy service*—and top profit for you.

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AN OLD BAKERY . . .

Continued from page 37

the public area of the shop, and made no provision for the comfort of the workers.

The new system, worked out by representative R. M. Dawson and dealer M. L. Garza of U. S. Air Conditioning Corp., places a 10-ton Kooler-aire unit against the front wall of the mixing and decorating room. The unit (8' long x 5' high) has a built-in evaporative condenser for water conservation. After the old evaporative coolers were removed and the grille openings sealed, the two existing ducts were tied into the new installation, one to handle the evaporative condenser exhaust and the other to provide fresh air.

The large quantities of air which are moved over the motor and compressor section, through the evaporative condenser and out the exhaust, are taken directly from the mixing and decorating room. This not only draws the heat through the windows from the adjoining oven room, making it more comfortable for workers there, but the extra-warm air also seems to increase the efficiency of the unit's evaporative condenser.

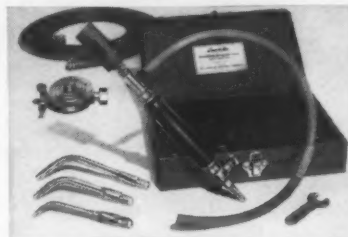
Proprietor Lorenzo Renteria has found that conditioned air in his store keeps his cakes in top condition, where with the previous system icing became soft and sticky. The bakery's business has increased 10% since it installed the new equipment.

FLORIDA MOTEL TO BE AIR CONDITIONED

Contract for the air conditioning installation in the new Charon motel now under construction in Dade County, Fla., has been awarded to the Akrko Air Conditioning Co., of Miami Beach, dealer for U. S. Air Conditioning Corp.

The new motel will comprise two two-story buildings containing 44 rooms, seven efficiency apartments and a separate L-shaped structure containing cocktail lounge and lobby. Cooling system will be a 25-ton Kooler-aire unit, adapted for central station plant application. Individual room adjustment will be provided.

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Three interchangeable stems give a wide range of precision-controlled flame sizes for faster and better soldering, heating, and brazing. A fourth stem, easily assembled to the same handle, provides a quick and sure device for locating leaks of non-combustible halide refrigerant gases, such as Freon and Carrene.

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Order from your local Jobber

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MARCH, 1951 • COMMERCIAL REFRIGERATION

YORK SHOWS NEW UNITS FOR MULTI-ROOM COOLING

The latest York Corp. development in air conditioning equipment for multi-story multi-room building applications such as office buildings, hotels, hospitals and apartment houses was displayed at the annual meeting of the American Society of Heating and Ventilating Engineers.

Discussing these air conditioners, known as "fan window units", Stewart E. Lauer, York's president, said: "Modern construction trends which are toward reduced floor to floor heights in buildings, increased window areas, thinner outside wall construction and heavier lighting, have taxed the ingenuity of air conditioning engineers.

"With mounting construction costs, a premium has been placed on space conservation and utilization of floor area to insure maximum investment return. In the past, probably no facility within a building has been more space-consuming than the air conditioning system. This has led to an intensive search for an air conditioning system that would meet the physical limitations imposed by modern architectural design and still offer the quality the public now expects and demands.

"This latest York Corp. development meets these requirements and still retains the attractive features of

central station type air conditioning systems plus several new important features."

The new unit conditioners require a minimum of building space and are physically adaptable to existing buildings as well as to new construction. Only three pipes are required to install the units—chilled water supply and return, and drain piping. This design also minimizes the size of engine rooms, since space must be provided for only a central water cooling system.

In addition to providing a modern air conditioning system, this design results in a considerable saving of critical materials which is vitally important today. An installation of air conditioning in a Veterans' Administration Hospital or other similarly essential application using this system will require at least 20% less critical materials.

This type of air conditioning is ideally suited to buildings in which work must be continued in some sections after the main working force has gone home. Instead of turning on a large central fan and air conditioning all spaces, York conditioners permit air conditioning only those spaces where it is needed.

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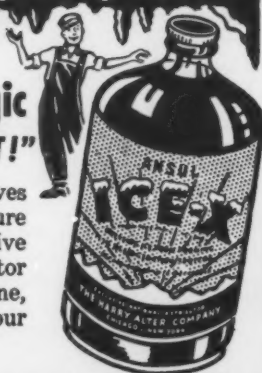
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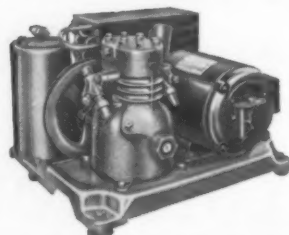
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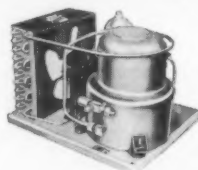
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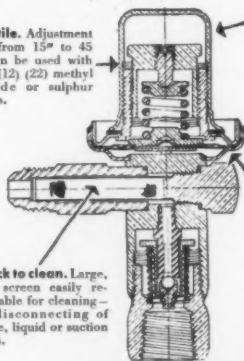
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2. Don't listen to or spread rumors against a race or a religion.
3. Speak up, wherever we are, *against* prejudice. Work for understanding.



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